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USAID OFFICE OF FOOD FOR PEACE LIBERIA BELLMON ESTIMATION

August 2009

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

PREFACE

In June and July 2009, the Bellmon Estimation Studies for Title II (BEST) team undertook an analysis aimed at generating recommendations for a Bellmon Determination to be made by USAID. The purpose of the analysis was to determine that the direct distribution and monetization of U.S. agricultural commodities provided for use in Liberia during FY2010 through Title II meet the criteria set forth in the Bellmon Amendment.

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ACRONYMS & NOTES

BCC	Behavior Change Communication
BEST	Bellmon Estimation Studies for Title II
CFSNS	Comprehensive Food Security and Nutritional Survey
CIF	Commodity Insurance and Freight
CPI	Consumer Price Index
CRS	Catholic Relief Services
CSB	Corn Soy Blend
DEV	WFP Development Program
FANTA-2	Food and Nutrition Technical Assistance Project
FAO	Food and Agriculture Organization of the United Nations
FFW	Food for Work
FOB	Free On Board
FSCF	Food Security Country Framework
FY	Financial Year
GOL	Government of Liberia
GDP	Gross Domestic Product
HA	Hectare = 2.471 acres; 0.4047 hectares = 1 acre
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IDP	Internally Displaced Person
IPP	Import Parity Price
LFSNS	Liberia and Greater Monrovia Food Security and Nutrition Surveys
LMR	Liberia Market Review
MT	Metric Ton = 2,204.62 pounds
MCHN	Maternal and Child Health Nutrition
MYAP	Multi-Year Assistance Program (PL-480 Title II)
NGO	Non-governmental Organization
NPA	National Ports Authority of Liberia
PM2A	Prevention of Malnutrition in Children Under Two Approach
PRRO	Protracted Relief and Recovery Operation
SP	Samaritan's Purse
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USG	United States Government
VAM	Vulnerability Analysis Mapping
WFP	World Food Program

Exchange Rate:

The exchange rate used throughout this report is 70 Liberian Dollars (L\$) = \$1

1. EXECUTIVE SUMMARY

This report presents findings related to both monetization and distribution which will aid in making a Bellmon determination in advance of a planned FY10 USAID Title II funded Multi-Year Assistance Program (MYAP) in Liberia. This study is based on a desk study and field work conducted during June and July 2009. Since monetization is likely to fund at least a portion of these activities, a market analysis of key commodities was conducted. Current food aid programs were reviewed, potential distribution modalities are outlined and proxy indicators of additionality investigated in order to estimate the potential impact of a Title II-funded distributed food aid program on local production and markets.

1.1 MONETIZATION ANALYSIS – FINDINGS/RECOMMENDATIONS

Commodities were considered for monetization based on the following criteria:

- Eligibility for export from the US;
- Eligibility for import to the recipient country;
- Significance of domestic demand;
- Whether domestic supply shortfalls are filled through commercial imports and food aid;
- The existence and degree of competition for the purchase of a monetized commodity; and
- Expectations that fair market prices can be obtained.

Liberia's top three food commodity imports during 2004-2008 were rice, wheat flour and palm oil. This BEST study considered four food commodities as potential candidates for monetization: **parboiled rice, vegetable oil, wheat flour and wheat grain.**

Due to the highly regulated markets for rice and wheat flour, the government should be strongly encouraged to both open up bidding to all importers of rice and wheat flour to ensure there is adequate competition in the buyer market and also to review its policy of setting the prices at which rice may be sold.

Given the above caveat, up to 3,427 MT of **parboiled rice** is **recommended** for monetization, based on the following: (i) Liberia sources a substantial proportion of its rice through commercial imports and food aid; (ii) there is market competition (5 major traders and at least 8 commercial importers and buyers), though the market is regulated; and (iii) to foster greater competition and ensure prices at fair market value can be obtained, the market for monetized parboiled rice should be opened up to other rice importers. At current prices and estimated

volumes, monetization of 10 percent of estimated parboiled rice imports would generate approximately \$2.2 million in funds.

Again with the above caveat, this Bellmon report **recommends** monetization of up to 1,994 MT of **wheat flour** based on the following: (i) Liberia sources all of its flour through commercial imports and food aid; (ii) there is some market competition (at least 5 buyers), though the market is regulated; (iii) to foster greater competition and to ensure fair market prices can be obtained, the monetized wheat flour market should be opened up to other wheat flour importers.

Vegetable oil was monetized twice since 2004, in very small volumes (less than 500 MT)¹ **Soybean oil** is **not recommended** for monetization, given: (i) insufficient demand for soybean oil: insufficient volumes of soybean oil are imported, and are inadequate for monetization purposes; and (ii) lack of competition in the buyer market (the single buyer is an edible oil packaging company).

It is **not recommended** that **wheat grain** be monetized given: (i) no commercial imports of wheat grain, with food aid imports of bulgur wheat being the only imports; and (ii) lack of competition in the buyer market: one milling company, the only grain mill in Liberia.

Should the need arise to monetize something other than the maximum volume of parboiled rice recommended herein for FY10, this Bellmon recommends further investigation into the feasibility of **regional monetization** (RM) of wheat grain or rice at any one or more of three West African ports (the Port of Tema, Abidjan or Dakar), and possibly non-fat dry milk at the Port of Tema. RM is a legally-compliant alternative for awardees who find themselves operating in a country with less than fully competitive domestic commodity markets. RM provides awardees with the option of selling into a market where there is sufficient competition among buyers in order to increase the likelihood that bids will be at or near import parity. RM can generate greater revenue for food security activities and thereby increase the efficiencies of the FFP program. It also provides awardees with a fallback position if a commodity that was initially recommended for monetization becomes unviable at a later date due to changing market or policy conditions.

1.2 SUB-NATIONAL DISTRIBUTION ANALYSIS – FINDINGS/RECOMMENDATIONS

The BEST distribution analysis is based on the assumption that a well-designed and executed food aid program that targets the needs of beneficiaries will have little to no impact on the market or local production incentives. Once effective application of beneficiary criteria has accurately identified households in need of food assistance, maximum food security impact and minimum leakages are ensured when the ration size and composition, as well as the timing and frequency of ration delivery, correspond most closely to a household's perceived food needs.

¹ CRS 2008 Bellmon

There is broad scope and range for a wide array of Title II-funded development interventions in Liberia. For the upcoming MYAP cycle, two modalities for *distributed* food aid appear most likely to address these priorities: Food for Work (FFW) and Maternal Child Health Nutrition (MCHN) interventions, likely in the form of a Prevention of Malnutrition in Children Under Two Approach (PM2A). To help ensure proposed programs will not result in substantial disincentive or disruption of markets, the BEST distribution analysis outlines key considerations for the design of FFW and PM2A activities from a Bellmon perspective. Special emphasis is placed on those aspects of a PM2A activity which are most important from a Bellmon perspective: (1) geographic targeting and program coverage; and (2) strategic use of food rations to achieve maximum impact on nutritional outcomes.

PM2A Geographic Targeting and Program Coverage

PM2A presents both an opportunity for long-term human capital investment and a unique challenge to avoid disincentives in the short-to-medium term. While the traditional recuperative approach targets children who are already malnourished and may have severe, irreversible physical and cognitive damage, the PM2A provides food aid to all pregnant and lactating mothers, and all children between the ages of 6 to 24 months within a target geographic area regardless of wealth status or household food needs. Because the key PM2A targeting criteria are based on a child's age and a women's physiological status, rather than on an estimated household food deficit, the program has greater potential to provide food aid to households for whom the food aid would not represent additional consumption. Initial geographic targeting of areas with a greater proportion of food-deficit households will help avoid disruption of local production and markets.

There are no current Title II awardees implementing MCHN programs in Liberia. Therefore, it is difficult at this stage to anticipate what geographic coverage or ration might be proposed for distribution should a MYAP propose a PM2A program. Beneficiary targeting will likely focus on regions identified as chronically food insecure in the USAID Food Security Country Framework (FSCF) for Liberia for FY2010-2014.

To provide additional geographic targeting guidance, this analysis uses two proxy indicators of additionality (percentage of households classified as either "food insecure" or "highly vulnerable" to food insecurity² and the prevalence of chronic malnutrition in children under five. The composite indicator of food consumption and food access, and chronic malnutrition in children under five are the best available indicators of the relative absorptive capacity of food aid at the sub-national level. Where a high percentage of households report both poor food consumption and poor food access, and surveys show high rates of chronic malnutrition in children under five, poor nutritional outcomes will likely be more responsive to food aid intended as supplemental nutrition. By geographically targeting areas where these indicators coincide, a PM2A activity will help ensure that any given PM2A beneficiary household will more likely than

² As defined in the Liberia Comprehensive Food Security and Nutrition Survey (CFSNS 2006)

not increase overall household food consumption, and therefore represent additional consumption, relative to households in other geographic areas with lower rates of poverty and chronic malnutrition.

Targeting a PM2A activity towards the poorest communities within any one or more of the counties with the highest proportions of chronically food insecure households and above the rural average rates of stunting in children under five would be least likely to pose any Bellmon concerns. These counties include Bomi, Grand Kru, River Gee, Nimba, Sinoe, Bong and Grand Gedeh. An estimated two-thirds to three-quarters of all households in the four counties of Bomi, Grand Kru, River Gee and Nimba are food insecure; these counties also have the highest rates of stunting among children under five. Among these four counties, implementation of a PM2A in Nimba would reach the greatest number of PM2A-eligible beneficiary households. The counties of Sinoe, Bong and Grand Gedeh also have a high proportion of food insecure households, along with near or above-the-rural-average rates of chronic malnutrition. Like Nimba, Bong has a significantly larger population of PM2A-eligible households than the other highlighted counties.

Whether it will be feasible or appropriate to concentrate resources into communities in more than one county will depend on overall funding and integrated program design. Regardless of which counties are targeted, the volume of distributed food rations should be calibrated based on the cash resources necessary to fund all of the inputs required to obtain desired program impact. Particularly where malnutrition is heavily influenced by the status of women and poor feeding practices, as in Liberia, sufficient cash resources to support the strategic use of food rations in a PM2A activity will help to ensure the food rations will represent additional consumption at the household-level, and therefore be Bellmon compliant. Where critical complementary health services and inputs are more readily available, the use of food rations to support long-term improvements in child nutrition outcomes will be particularly efficient.

Strategic Use of Food Rations to Achieve Maximum Impact on Nutritional Outcomes

Individual PM2A rations must cover all pregnant or lactating mothers and children under two years of age within a catchment area on a year-round basis, with the size and composition of the individual ration designed to meet their special nutritional needs. Household rations, however, should be designed with the objective of protecting the individual rations from diversion or dilution and inducing program participation.

Potential awardees will need to conduct formative research to understand issues of intra-household sharing and barriers to participation in order to determine the appropriate size, composition, beneficiary coverage and frequency of delivery of household rations. The preventive approach that was successfully piloted in Haiti provided a household ration composed of blended foods, pulses and oil to all households within the catchment area on a year-round basis, regardless of household wealth status or food deficit. Caution is warranted regarding the provision of household rations year-round to all PM2A-eligible households in Liberia due to dependency and a sense of entitlement which still exists in some communities as a result of the civil war and its aftermath. While extreme poverty constrains access, effectively encouraging increased agricultural production and income-generating activities, while simultaneously providing household rations year-round under the umbrella of a PM2A, has a

higher likelihood of introducing disincentives. Special care should be taken in designing any integrated development intervention that might send counter-acting messages to beneficiary communities.

Future awardees may consider different household ration designs depending on a variety of factors (e.g., community needs, food preferences and logistics, etc.), which may lead to a more strategic use of household rations, both in terms of household ration composition, size, and frequency and timing of delivery. Two such options for the provision of household rations are explored in this report:

1. Target household rations to *all* PM2A-eligible households, regardless of household food insecurity or wealth status
2. Target household rations to all PM2A-eligible households, but limit distribution of household rations to the lean season months

Based on formative research, future awardees may consider these and other household ration designs, any one of which will require ongoing monitoring and evaluation to ensure the household ration is sufficient to ensure protection of individual rations while maintaining acceptable levels of program participation.

The total magnitude of coverage is important from a Bellmon perspective because not only does it translate into a volume of food aid commodities being introduced into a local area (and therefore potentially affecting markets and incentives to produce), it hints at the non-food ration costs that must be available to effectively support all of the other program activities. Behavior Change and Communication, and other health and nutrition services, are essential inputs into any program designed to address many of the underlying causes of early childhood malnutrition which are *not* a function of lack of food availability and access. Particularly where malnutrition is heavily influenced by the status of women and poor feeding practices, as in Liberia, sufficient cash resources to support the strategic use of food rations in a PM2A designed to affect long-term nutritional outcomes through behavior change will help to ensure the food rations will represent additional consumption at the household-level, and therefore be Bellmon compliant.

Whichever modalities are proposed, it will be important to avoid duplication of ration coverage, on the one hand, and capitalize on complementary services through coordination of development interventions on the other.

1.3 ADEQUACY OF PORTS, STORAGE & TRANSPORTATION – FINDINGS / RECOMMENDATIONS

While Liberia has secure and ample storage facilities, its ports are characterized by limited handling capacity and its transport capacity is limited by deteriorated roads and bridges. Only one port is used for and has handling facilities for external commodity trade (the Freeport of Monrovia), while the remaining three ports have limited handling capacity and are primarily used for the logging trade. The main wharf, plus three out of the Freeport's four piers are functional; however, the Freeport is highly constrained by channel shrinkage, blockage of berths by

capsized vessels, limited and outmoded discharging and handling equipment, and heavy reliance on manual labor. The Freeport is, however, secure as it is guarded by the Security Unit operated by the Liberia Seaport Police. The Seaport Police have adequate capabilities to maintain security for all cargoes and warehouse facilities, in concert with the Liberian National Navy and other State Paramilitary Organizations.

Sufficient and adequate storage for the Title II commodities currently being imported into Liberia exists. WFP owns about 215,000 square foot of warehouse space in the Freeport zone, while the NPA owns 30 warehouses within the Freeport, which have been rehabilitated and are operational. CRS has a contract with WFP to use about 10,700 square foot of its warehouse space. If required, additional space is available from WFP and other rental warehouses within and outside the Freeport zone.

Some goods are transported from the Freeport via the airport. Additionally, about 20-30 trucking companies operate in Monrovia, with a total trucking capacity of less than 2000 MT, transporting goods along 650 kilometers of paved and 5,600 kilometers of unpaved primary, secondary and feeder roads in Liberia. However, road transport remains a challenge, as the condition of most road beds and many bridges deteriorated significantly during the years of the conflict; and during the rainy season (May to October), farm-to-market access is difficult because parts of the country become more isolated.

Following the fraud involving the World Vision program operations in Liberia, which involved its local staff making a false request to CRS, the Consortium instituted a raft of preventative measures for food handling and distribution procedures and controls. These measures include the requirement that all requests for food made by local NGOs must be approved by the Awardee responsible for the specific area. In addition, CRS and the Awardee must monitor the local NGOs and verify that the food released arrived and was properly distributed. The BEST team was satisfied that the new measures are working and found no cases of loss reported. Prior to the implementation of the FY2010-2014 MYAP, and at regular intervals during program implementation, continued vigilance is warranted to avoid future losses. The BEST Update during FY11 will include a review of the effectiveness of awardee preventative measures

2. COUNTRY BACKGROUND & OVERVIEW

2.1 ECONOMIC OVERVIEW

With a GDP of \$735 million (2007), and a per capita GDP of \$290, Liberia is one of the poorest countries in the world.³ Rapid growth in recent years (8 percent and 9 percent growth during 2006 and 2007, respectively) has been outweighed by high inflation (9 percent in 2006, up to 16 percent in 2007). Furthermore, production, income, and added value per worker have still not returned to the pre-war levels. Pre-war agricultural production incomes were complemented by low income work on rubber plantations, mining operations, palm, coffee and cacao farms, and other commercial activities. There has been little investment in labor-intensive manufacturing activities or in higher income agriculture for small-holders. The result is very low labor productivity and low salaries (low added value) and high urban unemployment and underemployment, as well as small-holder farm incomes that are below pre-war levels.

Exports (\$157 million in 2007) are low, relative to imports (\$490 million), with main exports composed of food commodities, and imports primarily food and fuel.⁴ Currently, Liberia's export revenues come primarily from rubber exports and revenues from its maritime registry program. There is increasing interest in the possibility of commercially-exploitable offshore crude oil deposits along Liberia's Atlantic Coast. There are plans for iron-ore extraction, palm plantations and production of palm oil, extensive rice farms, as well as recuperation of rubber plantations. These will offer additional employment and income to the rural populations, but have low value added for labor and will only be reverting back to the pre-war systems of low income levels for the rural populations.

However, Liberia's potential for export growth is currently limited by its poor business environment, which is ranked as one of the worst in the world (157 out of 181).⁵ The World Bank index of "Shipping Difficulties" ranked Liberia at 98, due to the country's border delays, fees, and red tape. These bottlenecks have kept foreign direct investment away, currently a *negative* \$82 million in 2006.⁶

³ The World Bank, World Development Report 2009

⁴ Ibid

⁵ The World Bank, Doing Business 2009

⁶ The World Bank, World Development Report 2009

2.2 AGRICULTURE OVERVIEW

Liberia has an area of 111,370 km², of which 4 percent is arable and 32.7 percent is forests.⁷ The agricultural sector employs between 70 percent and 80 percent of the population, in production, agro-processing, palm oil processing, charcoal, fishing and hunting.⁸ The average farm size is 3.3 hectares (ha)⁹, ranging from 5.4 ha in Lofa to 1.8 ha in Bomi.¹⁰

Historically, the agriculture sector was divided into commercial export-oriented estates and subsistence farmers. The commercial estates provided jobs to the subsistence farmers. The war devastated the commercial sector and displaced a large number of subsistence farmers. It is estimated that 7 percent of the population remains displaced.¹¹ Up to 75,000 Liberian refugees have still not returned home.¹² Many of these refugees are believed to be still in Ghana, Ivory Coast and Guinea. The agriculture sector is still recovering from the effects of the war and refugees are still returning to farms. As a result, the sector is presently characterized by low production, low yields and low-level technology. Low production and limited income opportunities have resulted in a large percent of the rural population going hungry for part of the year.

Liberia has the potential to be a significant agricultural producer for both its own food needs and for export commodities including cacao, coffee, sugar, palm oil, rubber, timber, tropical fruits, and others. This includes various production and income opportunities for small-holders as well as larger commercial producers. Prior to the war, Liberia achieved 55 percent food sufficiency, mainly through rice and cassava production.¹³

Rice

Pre-war small-holder producers did not produce enough rice to cover their consumption needs. In the pre-war period, farmers relied on a strategy of working on estates or farms and using “hunger” plots to complement their food needs. An estimated 86 percent of these households cultivated cassava on these plots and 16 percent had rice plots.¹⁴ The former provided additional income and the latter acted as a food bank with cassava and other crops.

Rice production today is approximately one-third of the levels of production prior to the war, while production of cassava, another major food crop, has increased.¹⁵ Currently, total rice

⁷ The World Bank, World Development Report 2009

⁸ Ibid

⁹ 1 acre = 0.4047 hectare (ha); 1 ha = 2.471 acres

¹⁰ FANTA, FSCF, June 2009

¹¹ WFP VAM-CFSNS 2006

¹² UNHCR Liberia Country Operations Profile, January 2009

¹³ WFP VAM-CFSNS 2006

¹⁴ Ibid

¹⁵ USAID Food Security Country Framework for Liberia for FY 2010-2014

production is estimated at 105,000 MT¹⁶, with cassava at 227,000 MT.¹⁷ Farmers are planting more cassava, at an average yield of 6 tons/ha, while planting less rice, with average yields of 0.4 tons/ha.¹⁸ According to various studies, across all counties, the 2005 rice harvest was mainly consumed by producers, with only 7 percent sold in markets.¹⁹ The BEST study team was told by a local source that most small-holder producers maintain a rice crop to cover an average of 6 months of their families' consumption needs, and an excess for commercial sale. This was also the case even before the war. Overall national rice production is approximately 26 percent of local starches production.²⁰

Two different systems of rice cultivation co-exist in Liberia. Upland rice cultivation is the most dominant and practiced by 63 percent of farm households. Nearly 17 percent of households use swamp rice cultivation methods and the remaining 21 percent of rice producers combine both techniques.²¹ Upland rice cultivation is prevalent in River Cess, Grand Kru and Nimba counties, while swamp system is found in Lofa. About 54 percent of rice farms are between 0.2ha and 1.19ha with a further 25 percent of rice farms between 1.2ha and 1.69ha.

Productivity of rice farms is often low. In the CFSNS Survey 2006, farm households identified the following constraints to increasing rice productivity: lack of seeds and tools (mentioned by 50 percent of households), lack of finance to purchase agricultural inputs including fertilizers and irrigation (31 percent), lack of household labor (28 percent), and groundhog (pest) as well as bird attacks (each cited by 19 percent of households).²² In addition, farmers suffer from high post-harvest losses.²³

The Government of Liberia (GOL) and its partners are implementing a variety of programs that aim to improve production and processing technology by providing better and more seeds as well as tools to farmers.²⁴ As part of the 150-day action plan of the new government that took office in January 2006, one of the actions for economic revitalization consisted in distributing 20.5 million tons of seed rice to farmers, as well as 41,500 tools.²⁵ The medium-term strategy focuses on improved rice varieties (e.g., NERICA) and the expansion of small-scale mechanization.

¹⁶ For 2008, Ministry of Commerce

¹⁷ FANTA, FSCF, June 2009

¹⁸ Ibid

¹⁹ WFP VAM-CFSNS 2006

²⁰ CRS, Liberia Food Commodity Market Analysis, June 2008

²¹ Tsimpo, Clarence; Wodon, Quentin, 'Rice Prices And Poverty In Liberia,' *Research Working papers*, December 2008, pp. 1-19. World Bank

²² Comprehensive food security and nutrition survey (CFSNS) in Republic of Liberia, 2006

²³ GOL Ministry of Agriculture, "Response of Liberia to Global Food Price Increases," June 2008; Action Against Hunger, "Surge in Basic Commodity Prices – Liberia Case Study", May 2008.

²⁴ Tsimpo, Clarence; Wodon, Quentin, 'Rice Prices And Poverty In Liberia,' *Research Working papers*, December 2008, pp. 1-19. World Bank

²⁵ Liberia CFSNS 2006

Farmers continue to supplement their food consumption needs via other crops and purchases. This is done by working on other farms such as rubber, palm, coffee, cocoa, farms, as well as trading. Also, most farmers have an additional smaller crop “hunger farm” that supplements their food needs, with cassava, peppers, and other crops during the “hunger season.” Low income levels reduce the ability of households to purchase food during the “hunger season.”

For years, Liberia was among the top oil palm producers in the world. However, in the early 1980s and during the 14-year conflict, the country’s production accounted for only a small percentage of total global output. Oil palm plantations in Liberia commenced in the 1970s and cover more than 70,000 hectares across the country. Liberia possesses considerable comparative advantages in oil palm production, including favorable agro-climatic conditions, availability of secondary forestland for expanded production, highly favorable market conditions, particularly domestically and regionally, and relative proximity to the European export markets.²⁶ Smallholders make the majority of fresh fruits production, but face several constraints, including lack of knowledge of productive cultivation and processing practices, absence of access to highly productive cultivation and processing technologies, limited public capacity to support the development of a highly productive and dynamic oil palm sector and limited availability of domestic private capital for investment in production and processing.²⁷ Nevertheless, several local and international institutions have shown increasing interest in purchasing all available palm oil at attractive prices, resulting in smallholders realizing increased income, which has translated into increasing production. In addition, the GOL has embarked on policies and strategies to revive the sector by licensing private investors to rehabilitate and develop oil palm plantations. In May 2009, it signed a 63-year lease with Malaysia’s biggest company Sime Darby to develop oil palm and rubber estates on 220,000 hectares of land.²⁸ The company will initially invest about \$20 million for 10,000 hectares but would eventually increase to about \$800 million in investments. Other deals in the sector have involved foreign acquisitions of existing private plantations and companies.

2.3 POLICY OVERVIEW

In reaction to the food price crisis in 2008, the GOL introduced a number of short and medium-term policies, described below.

Agriculture sector investment. These policies included a doubling of the national budget for the agricultural sector, and the ‘back to the soil’ initiative for the urban population.

²⁶ Winrock International, *Expanding Opportunity in the Liberian Oil Palm Industry*, available at <http://www.winrock.org/fact/facts.asp?CC=5965&bu=>. Accessed September 3, 2009.

²⁷ Ibid

²⁸ Reuters, Monday, May 4, 2009, accessible via <http://www.reuters.com/article/rbssFoodProcessing/idUSKLR2348320090504?sp=true>. Accessed on September 3, 2009

Suspension of import taxes on rice. The government temporarily suspended the \$2.10 consumer tax on a 100 pound bag of imported rice.²⁹

Strategic reserve. Controls on the supply of rice entail the GOL maintaining a two-month strategic reserve of approximately 700,000 bags, through the Ministry of Commerce and Trade, under the management of SINKOR.

Stabilization fund. The Ministry of Finance's price stabilization fund for rice, levies \$0.25 per bag of imported rice. The fund was valued at over \$1 million in 2007. In response to rising food prices, funding from the rice stabilization fund (\$750,000) was allocated for purchase and distribution of local rice seeds, and for purchase of paddy rice for milling and subsequent sale.³⁰

Price stabilization. The Ministry of Agriculture mentions the need to mitigate the negative impacts of rising food prices on consumers by maintaining consumers' purchasing power.³¹

²⁹ GOL Ministry of Agriculture, Response of Liberia to Global Food Price Increases, June 2008

³⁰ Ibid

³¹ Ibid

3. FOOD AID OVERVIEW

3.1 PREVIOUS INITIATIVES

Catholic Relief Services (CRS), Africare and Samaritan's Purse (SP) are members of a consortium that has been implementing USAID'S Food for Peace program under the current Title II MYAPs for FY Years 2007 – 2010. CRS is the head of the consortium. As holder of this position, it is responsible for the monetization of the Title II commodities and plays the supervisory role in the implementation of the distributed food aid; the other two consortium members report to CRS.

CRS has monetized parboiled rice, vegetable oil and wheat flour at various times during the period between 2005 and 2009. In 2007, wheat flour monetization was halted because the GOL wanted to protect the newly established, and only, flour mill in the country - Premier Milling Corporation. The most recent monetization of vegetable oil occurred in 2005. Over the same period bulgur wheat, lentils, and vegetable oil were imported for food distribution.

All three Awardees work through local NGOs to implement their projects in the field. They deliver the food to the local NGOs, which are responsible for working with the communities, supervision and monitoring of work, and the distribution of the food. CRS and its consortium partners are responsible for overseeing and monitoring projects and for the control of the food distribution.

In terms of geographic coverage, CRS works in Bong, Lofa, Grand Kru, and Maryland Counties. Africare is operating in more than 15 communities in Nimba County and is targeting 10 communities in 2009. Samaritan's Purse is operating in Lofa and Gbarpolu Counties.

Title II funding supports consortium activities focused on improving infrastructure (through FFW activities) and safety nets (through a seeds protection rations program). FFW activities focus on infrastructure projects which include road rehabilitation, swamp rehabilitation for rice planting, fish pond rehabilitation, collective and individual latrine construction, community hand pump installation, bridge building, road repair and school and health clinic construction, among others. Some of the food is cooked and served to the workers on-site while another portion is given to participants to take home. The food distributed is meant to serve as an incentive to encourage project implementation. The Seed Protection program is a one-time program for refugees and returnees to buy planting seeds. Food is given out along with vouchers for purchasing seeds and tools for planting. The distributed food is used to discourage refugees and returnees from consuming their seeds.

3.1.1 Total Annual Monetized Food Aid by Donor and by Commodity

Table 1: Monetized Food Aid by Donor

Funding Agency	Commodity	2005		2006		2007		2008		2009	
		Volume MT	Price Per MT	Volume MT	Price Per MT	Volume MT	Price Per MT	Volume MT	Price Per MT	Volume MT	Price Per MT
USAID - Food for Peace CRS (seller) for consortium (Africare, SP, WV)	Rice	-	-	-	-	3,000	360	-	-	4,000	600
	Vegetable Oil	-	-	-	-	-	-	-	-	-	-
	Wheat	-	-	-	-	-	-	1,531	270	-	-
	Wheat Flour	-	-	2,300	NA	2,500	384	-	-	-	-
Total USAID		-	-	2,300	-	5,500	-	1,531	-	4,000	-
USDA* Mercy Corps, Visions in Action, ACDI/VOCA	Rice	-	-	950	350	-	-	-	-	-	-
	Vegetable Oil	-	-	950	752	2,360	650	-	-	-	-
	Wheat	-	-	-	-	-	-	-	-	-	-
	Wheat Flour	-	-	-	-	-	-	-	-	-	-
Total USDA		-	-	1,900	-	2,360	-	-	-	-	-
Total US Monetized Food Aid		-	-	4,200	-	7,860	-	1,531	-	4,000	-

Source: Awardees; NA = Not Available

3.1.2 Total Annualized Distributed Food Aid by Donor

Table 2: USAID Food for Peace, in Metric Tons

	2005	2006	2007	2008	2009	Total
Total USAID FFP	5,514	5,474	3,556	2,730	2,910	20,184

Source: CRS leads the LIAP Consortium. Commodities included bulgur wheat, pulses, and vegetable oil. USAID FFP Liberia Fact Sheet; CRS/Liberia Food Commodity Market Analysis; interviews with Awardees

Table 3: USDA Imports of Distributed Commodities (MT)

Commodity	Awardee	2005	2006	2007	2008	2009	Total
Bulgur	USDA consortium	0	0	0	0	0	0
CSB	USDA consortium	0	0	0	0	0	0
Rice	USDA consortium	0	50	0	0	0	50
Pulses	USDA consortium	0	0	0	0	0	0
Vegetable Oil	USDA consortium	0	50	0	0	0	50
Sugar	USDA consortium	0	0	0	0	0	0
Salt	USDA consortium	0	0	0	0	0	0
Total USDA, all commodities		0	100	0	0	0	100

Source: Awardees

Table 4: WFP Imports of Distributed Commodities (MT)

Commodity	Awardee	2005	2006	2007	2008	2009	Total
Bulgur	WFP	42,144	35,400	24,859	20,315	15,684	138,402
CSB	WFP	4,712	3,616	1,460	1,119	0	10,907

Commodity	Awardee	2005	2006	2007	2008	2009	Total
Rice	WFP	0	0	0	0	0	0
Pulses	WFP	5,201	5,615	3,701	3,602	2,675	20,794
Vegetable Oil	WFP	3,216	2,554	1,882	1,562	1,272	10,486
Sugar	WFP	0	0	0	182	181	363
Salt	WFP	0	0	0	470	346	816
Total WFP, all commodities		55,273	47,185	31,902	27,250	20,158	181,768

Source: CRS/Liberia Food Commodity Market Analysis; interviews with Awardees

Table 5: All Distributed Food Aid Imports, by Funding Agency (MT)

Agency/Awardee	2005	2006	2007	2008	2009	Total
Total USAID, all commodities	5,514	5,474	5,096	4,270	1,540	21,894
Total USDA, all commodities	66,008	57,219	40,887	35,742	25,506	215,327
Total WFP, all commodities	128,800	111,884	79,892	69,922	49,740	420,168
Total Food Aid	200,322	174,577	125,875	109,934	76,786	657,389

Source: CRS/Liberia Food Commodity Market Analysis; interviews with Awardees

3.2 PLANNED INITIATIVES

USAID/FFP

USAID is in the process of preparing a Mission Strategy and new programs, including a Title II Multi-Year Assistance Program (MYAP) for FY 2010-2014, to improve the food security of vulnerable rural households and communities in Liberia. The desired outcome of these new programs will include:

- Improved crop production and productivity;
- Increased incomes;
- Enhanced health and nutrition status, particularly in children under two and pregnant and lactating women; and
- Reduced household and community vulnerability to food insecurity, which could be achieved by implementing the three preceding outcomes in a coordinated and holistic program approach.

As part of its overall country strategy, USAID anticipates funding of \$6 million per year to support a pilot Food-Based Crop Insurance and Community Food Reserves program, which is expected to link with other Title II activities.

WFP

In its planned Food Assistance in the Transition from Recovery to Sustainable Development in Liberia, WFP will spend \$39.8 million to implement a comprehensive program from September 2009 through August 2011.³² The program targets 660,000 beneficiaries with 30,784 MT of food. The planned project activities will focus on rural groups in transitory food insecure counties in the northwest and central Liberia. The program consists of the following four components, each with its specific geographic and individual targeting criteria:

- Nutrition interventions
 - MCHN program covering 15,000 pregnant and lactating mothers and children 6-24 months in River Cess, Bong, Grand Bassa, Nimba, Bomi, River Gee, Grand Kru, Maryland, Sinoe and Greater Monrovia counties.
 - Supplementary Feeding Program for 12,000 moderate acutely malnourished children 6-59 months in the same counties as above.
 - 4,800 Therapeutic Feeding Caretakers.
 - People Living with HIV (PLWHA) – feeding and treatment programs for 21,000 food insecure HIV/AIDS (9,000 on ART) and TB (12,000) patients in all the 15 counties.
- Safety Nets
 - School Feeding Program, including girls' take-home rations, for 342,000 beneficiaries in River Cess, Bong, Grand Bassa, Nimba, Lofa, Gbarpolu and Bomi counties.
 - Lean season safety net family rations for 200,000 households in River Cess, Bong, Grand Bassa, Nimba and Lofa counties.
- Food security and livelihood support – for 65,000 beneficiaries in all counties, except Margibi, Rural Montserrado, Cape Mount and Greater Monrovia.
 - Asset Rehabilitation (family ration for 5 persons) and Food for work
- Building government capacity to monitor food security and manage hunger programs.

³² The U.N. World Food Program (2009), Protracted Relief and Recovery Operation (PRRO) Liberia.

- Strengthen government capacity to assess, monitor and respond to food insecurity and help connect small scale farmers to markets by purchasing rice surpluses for use in the girls' school feeding take-home ration.

Key Planned Initiatives Affecting Food Utilization

The USAID President's Malaria Initiative (\$37.4 million during 2008-2012), is preventing and treating malaria. In partnership with MOHSW and USAID (2008-2013), John Snow Inc. is working on implementation of a national level health policy and Rebuilding Basic Health Services plan expected to cover 106 health facilities in 7 catchment areas, expected to include large swaths of Bong, Lofa, Nimba, River Gee, Grand Cape Mount, Bomi and Montserrado counties. The NGOs Curamericas and Medical Teams International are continuing implementation of child survival and health grants programs (2006-2013). Along with improvements in access to basic education, gender equality and child protection, UNICEF's \$56 million Country Programme (2008-2012) aims to reduce child morbidity and mortality through broad support of health sector policies. At the time of this report, the President of Liberia is expected to announce a GOL MOH Community Health Volunteer program, which will include additional funding for distribution of oral rehydration salts to treat diarrhea and antibiotics to treat acute respiratory infections, the two of the top three causes of under five mortality and morbidity in Liberia.

Key Planned Initiatives Affecting Food Availability and Access

Two key multilateral institutions are planning initiatives focused on improvements in agriculture. The World Bank, African Development Bank and GOL are including pro-poor growth in agriculture as part of their country assistance strategy for Liberia for 2009-2011. The FAO is also working with the GOL on food security projects such as introducing an improved rice variety; increasing cassava production, and working on an urban and peri-urban vegetable project.

4. ADEQUACY OF PORTS, STORAGE & TRANSPORTATION

Seaports

According to the Liberia Market Review 2007, Liberia has four main seaports: Harper, Buchanan, Greenville and the Freeport of Monrovia. Only the Freeport of Monrovia has the handling facilities necessary for commercial usage and handles most external commodity trade. The other three ports are mainly used for logging trade and have limited handling capacity; vessels calling at these ports must provide their own handling equipment. The Freeport is highly constrained by channel shrinkage, blockage of berths by capsized vessels, limited and outmoded discharging and handling equipment, and heavy reliance on manual labor.

The port is owned by the GOL and operated by the Liberia National Ports Authority (NPA). It is close to Monrovia, Liberia's capital largest city and its administrative, commercial, communications, and financial center. The city's economy revolves around its harbor. Roads and an airport connect it with Liberia's interior (See Figure 10 on Location of Markets in Annex 5).

Monrovia is an artificial harbor protected by two rock breakwaters extending 2 kilometers into the sea, thus providing approximately 304 ha of protected water.³³ There is one turning basin with a depth of approximately 9.15 m. It handled 382 ships in 2008 and has a handling capacity of 2,500 MT per day for break-bulk cargo.

Monrovia port enjoys free port status, which allows the storage of cargo in transit free of duty, pending re-export to other West African states. The GOL, in a concession agreement with the private sector, launched a scheme to develop and operate a Freeport zone, including a multipurpose container terminal (break-bulk, general and containers).³⁴ The key objective is to improve the overall performance of the port to support Liberia's economic growth.

The Freeport has four piers and one main wharf. Since July 2001, only three of the wharf's four berths were operational, while the capsized vessel Torm Alexandra (a 4,160 ton vessel) occupied the fourth. The ship capsized and sank on July 25 2001 after local stevedores, who had little experience with large cargoes, mishandled its two cranes while offloading containers. It was finally raised and removed from the port in May 2009.³⁵

³³ OT Africa Line, available at <http://www.otal.com/liberia/index.htm>

³⁴ Ibid

³⁵ Ibid

The general cargo wharf is equipped with top loaders, a concrete based container storage area and provision for reefer containers (but not connected to electricity to date).³⁶ Its operations are hampered by poor cargo handling equipment, capable of a maximum lift of only 50 tons. Table 6 shows the dimensions of the wharf. Its storage facilities include and eight transit warehouses totaling 107,600 square foot.³⁷

Table 6: Freeport of Liberia Dimensions

Pier/Wharf	Length (m)	Width (m)	Harbor Basin (m)	Elevation Above Main Low Water (m)
General Cargo Wharf	609	10.97 (concrete deck)	9.15	3.1673
BMC Pier	270	12.5	9.15	13 – 14.5
Liberia Mining Company Pier	278.35	13	9.15	4.72
Mano Pier	365	6	9.15	
Bunker Pier	420	10	9.15	

Source: OT Africa Line, available at <http://www.otal.com/liberia/index.htm>

In addition to the general cargo wharf, the Freeport has tanker facilities capable of discharging crude oil tankers up to 198.1m long and 13.71m deep. At present tankers moor with two bow anchors and lie alongside a breasting dolphin with stem moored to a shore dolphin. One tanker berth is open for discharge and bunkering but is limited to 213.4m length and 10.06m depth. Finally, the fishery pier is situated on the Northern breakwater for vessels up to 73.14m long and equipped with cold storage facilities.

Handling Equipment: The recent civil conflict resulted in the destruction of the handling equipment at the Freeport; most of the equipment has remained nonoperational. WFP and the United States Military Joint Task Force have been working on rehabilitation, including procuring the spare parts necessary to reactivate the equipment. The Freeport has the following handling equipment: One top lifter (36 – 42 MT); one empty lifter (14 tons); three forklifts (1 – 3 tons); and, one TEREX T160 crane operated by the NPA. Table 7 shows the NPA crane's attributes.

Table 7: Technical Attributes of the NPA Cargo Handling Crane.

Maximum Reach (ft.)	Load Radius (ft.)	Angle (degrees)	Load (MT)
115	25	78	12
115	65	55	5
26.5	25	36	24
26.5	10	68	54.4

Source: OT Africa Line, available at <http://www.otal.com/liberia/index.htm>

It takes an average of nine documents for import clearance and up to 17 days to process all the documents and take delivery of the goods. The average cost of importation is \$1,212 per

³⁶ OT Africa Line, available at <http://www.otal.com/liberia/index.htm>

³⁷ Ibid

container. Although the port has several problems, it functions reasonably well in regard to time for clearance and cost of operations. Compared to the region, Liberia compares well on the number of documents and outperforms the region on the number of days (the regional average of 41 days). The average cost is much lower than the regional average of \$2,279 per container.³⁸

Storage

There exists sufficient and adequate storage for the Title II commodities currently being imported into Liberia. WFP owns about 215,000 square foot of warehouse space in the Freeport zone. The NPA owns 30 warehouses within the Freeport, which have been rehabilitated and are operational. Some are leased to private importers. The major importers also have access to other warehouses outside the port area. The UCI is building a 14,000 square foot (\$5 million) warehouse at the Freeport.

CRS has a contract with WFP to use about 10,700 square foot of its warehouse space. If required, additional space is available from WFP and other rental warehouses within and outside the Freeport zone. These stores are used to hold cleared commodities for onward transport to the up-country warehouses of CRS and the other two consortium members. The BEST team inspected these warehouses and made the following observations:

- All of the warehouses are secure, have adequate space and properly suited for large storage of commodities. There were commodities for distributions in all the warehouses during the visit. The available space in each of the warehouses visited, however, was only about one-fourth full at the time of the visit.
- Each warehouse was under a warehouse manager.
- WFP maintains field compounds with offices, vehicle workshops, and warehouses. These warehouses are reportedly sufficient for the amount of commodity imported by WFP.

Security

The Freeport of Monrovia is well protected and secure using the Security Unit operated by the Liberia Seaport Police.³⁹ The seaport police have adequate capabilities to provide security protection for all cargoes and warehouse facilities. The Liberian National Navy and other State Paramilitary Organizations compliment their efforts. The NPA implemented an access pass scheme for vehicles entering the Freeport in January 2004.

³⁸ Doing Business 2009, World Bank

³⁹ The National Port Authority, accessible at <http://www.winne.com/liberia/to09.html>

Management: Each of the warehouses visited had a management team setup at the Freeport, which included the warehouse manager and other warehouse staff. The warehouse manager keeps records of the movement of commodities.

Process of disbursement: A Consortium member makes a request for commodities based on their needs and the approved plan and pre-agreed allocations for food distribution. CRS then verifies for approval and, if approved, makes a formal request for the release of the consignment to WFP warehouse manager. After reviewing and verifying of the request, based on the contract with CRS, the warehouse manager releases the food commodity to the organization. Since the consortium members do not have warehouses of their own, the consignment is delivered to a local NGO in the field for distribution.

Following the fraud involving the World Vision program operations in Liberia, which involved its local staff making a false request to CRS, the Consortium instituted a raft of preventative measures for food handling and distribution procedures and controls. These measures include the requirement that all requests for food made by local NGOs must be approved by the Awardee responsible for the specific area. In addition, CRS and the Awardee must monitor the local NGOs and verify that the food released arrived and was properly distributed. The BEST team was satisfied that the new measures are working and found no cases of loss reported. Prior to the implementation of the FY2010-2014 MYAP, and at regular intervals during program implementation, continued vigilance is warranted to avoid future losses. The BEST Update during FY11 will include a review of the effectiveness of awardee preventative measures.

Roads

There are approximately 650 kilometers of paved and 5,600 kilometers of unpaved primary, secondary, and feeder roads in Liberia. In addition, about 7,800 kilometers of primarily logging roads are mostly impassable. The condition of most road beds and many bridges deteriorated significantly during the years of the conflict. Farm to market access is difficult and parts of the country are isolated during the rainy season (May to October).

Trucking Capacity

There are about 20-30 trucking companies in Monrovia with a total trucking capacity of less than 2000 MT. Commercial truck carrying capacity ranges from 5-20 MT. During the dry season, commercial transporters operate throughout the country with the exception of River Gee, Maryland and Grand Kru. These counties are generally served by transporters from Côte d'Ivoire.

Commercial transportation costs vary by season and type of road. On average, transportation costs on paved roads are \$0.40 per ton per kilometer, and \$0.56/ton/km on unpaved roads. Costs on the paved roads remain generally the same for both wet and dry seasons, but may be more than double during the wet season for travel on unpaved roads.

5. MONETIZATION

In order to prioritize potential commodities for monetization analysis, trade data were analyzed to identify those commodities consistently imported in sufficient quantity and value to meet the funding requirements of a MYAP for FY10. Commodities were considered for monetization based on the following criteria:

- Eligibility for export from the US;
- Eligibility for import to the recipient country;
- Significance of domestic demand;
- Whether domestic supply shortfalls are filled through commercial imports and food aid;
- The existence and degree of adequate competition for the purchase of monetized commodities; and
- Expectations that fair market prices can be obtained.

BEST researched the top food commodity imports in order to determine which would be preferred candidates for monetization. Liberia's top three food commodity imports during 2004-2008 were rice, wheat flour and palm oil.

Table 8: Top 3 Food Commodity Imports (MT), 2004-2008

	2004	2005	2006	2007	2008	Total
Rice	191,296	137,214	208,487	146,599	173,102	856,697
Wheat flour	14,604	21,420	23,539	19,428	12,494	91,485
Palm oil	6,965	11,816	10,792	16,317	13,648	59,538

Source: UN Comtrade

This BEST study considered four eligible commodities as potential candidates for monetization for FY10: **parboiled rice, vegetable oil, wheat flour and wheat grain.**

Findings/Recommendations:

Due to the highly regulated markets for rice and wheat flour, the government should be strongly encouraged to both open up bidding to all importers of rice and wheat flour to ensure there is adequate competition in the buyer market and also to review its policy of setting the prices at which rice may be sold.

This Bellmon report **recommends** monetization of *up to* 3,427 MT of **parboiled rice**, with the caveat that USAID require that all importers who are able to meet awardees' eligibility requirements to compete for future monetizations. During the last monetization, the GOL allowed only two importers to compete.⁴⁰ This recommendation is based on the following findings: (i) Liberia sources a substantial proportion of its rice through commercial imports and food aid; (ii) there is market competition (5 major traders and at least 8 commercial importers and buyers), though the market is regulated; and (iii) to foster greater competition and ensure prices at fair market value can be obtained, the market for monetized parboiled rice should be opened up to other rice importers; and (iv) 3,427MT represents 10 percent of the commercial imports of parboiled rice.

This BEST report also **recommends** monetization of up to 1,994 MT of wheat flour because currently Liberia imports all of its wheat flour requirements and there is adequate competition even in the regulated buyer market (5 buyers). However, it is also recommended that USAID require that the GOL allow all eligible buyers to participate in future monetizations, to ensure fair market prices are obtained. This recommendation is based on the following findings: (i) Liberia sources all of its flour through commercial imports and food aid; (ii) there is some market competition (at least 5 buyers), though the market is regulated. To foster greater competition and to ensure fair market prices can be obtained, the monetized wheat flour market should be opened up to other wheat flour importers.

It is **not recommended** that wheat grain be monetized given: (i) no commercial imports of wheat grain, with food aid imports of bulgur wheat being the only imports; and (ii) lack of competition in the buyer market: one milling company, the only grain mill in Liberia.

Vegetable oil was monetized twice since 2004, in very small volumes (less than 500 MT)⁴¹ It is **not recommended** for monetization, given: (i) insufficient demand for soybean oil: insufficient volumes of soybean oil are imported, and are inadequate for monetization purposes; and (ii) lack of competition in the buyer market (the single buyer is an edible oil packaging company).

This BEST report does **not recommend** monetization of wheat grain due to lack of market competition (only one milling company as a potential buyer), which is reflected in a poor history of achieved sales price under monetization.

Individual commodities are discussed in greater detail below.

⁴⁰ Rice imports are regulated through the issuance of an import license by the Ministry of Commerce, without which no formal imports can occur. The importing company has to pay a one-time form cost of US\$25, and US\$1 per MT to the Bureau Veritas Group (BIVAC), a private company employed by the government to carry out pre-inspections. Import related charges, in addition to the CIF Monrovia price, include an import duty of US\$44 per MT. The National Port Authority (NPA) charges of US\$12.5 per MT and an overhead of US\$30 per MT for a total of US\$87.5 per MT. (Source: Liberia Country Profile, June 26, 2009)

⁴¹ CRS 2008 Bellmon

5.1 RICE

It is recommended that parboiled rice be monetized, given Liberia's high demand for rice, insufficient domestic production, and growing year-on-year demand. Parboiled rice is recommended because it can compete against Japonica butter rice imports from China.⁴² As both the government and donors wish to encourage increased domestic production, however, this recommendation should be revisited with each annual update to assess current market conditions.

Supply Summary

Rice is the staple food of Liberia, with imported rice covering two-thirds of annual rice consumption.⁴³ A survey in 2006 noted that 87 percent of rural households purchased at least some of the rice they consumed.⁴⁴ According to Comtrade, approximately 857,000 MT of rice were imported during the years 2004-2008, with annual import volumes ranging from 137,000 MT to 208,000 MT during the same period. Demand for rice has been increasing, illustrated by an increase in supply, which has been growing on average by 18 percent per year (excluding the decline in 2007). Assuming a continued growth in the rice supply of 18 percent per year, demand for rice is forecast to reach over 390,000 MT in 2010.

Local rice tends to be sold in the same county as it is produced.⁴⁵ Although GOL policy is to make Liberia self-sufficient in rice, current domestic rice production is inadequate to meet domestic demand. Production will continue to expand as GOL and donor programs to increase production are brought on line.⁴⁶

Liberia's rice imports from the US are primarily in the form of parboiled rice (99 percent per USDA/FAS), with China and India supplying milled rice.

⁴² According to an awardee, #5 Broken rice would not compete with Japonica butter rice imports from China. Rok and Suakoko are the traditional rice varieties grown in Liberia (UNDP Liberia Procurement Notice: Bid No Q/MON/077/08: Project: Kokoyah Village Millennium).

⁴³ WFP, VAM Market Review, 2006-2007

⁴⁴ Ibid

⁴⁵ Ibid

⁴⁶ The World Bank, Emergency Project Paper on a Proposed Emergency Food Crisis Response Program to the Republic of Liberia, 2008

Table 9: Rice Supply (MT)

		2004	2005	2006	2007	2008	Total
1	Imports ⁴⁷	191,296	137,214	208,487	146,599	173,102	856,968
2	Of which, parboiled rice ⁴⁸	38,259	27,443	41,697	29,320	34,620	171,339
3	Production	..	96,000	66,000	96,000	108,000	366,000
4	Food aid	..	2,429	7,690	3,175	..	13,294
5	Total Yearly Supply	191,296	235,643	282,177	245,774	281,102	1,235,992

Sources: (1) UN Comtrade; (2) Estimate – see footnote for details; (3) FAO; (4) IGC; (5) Sum of lines 1, 3, 4

Data limitations require rough estimation of the volumes of parboiled rice as a share of total rice imports into Liberia. The current estimate for average annual imported volumes of parboiled rice presented above is based on the assumption that parboiled rice imports represent on average 20 percent of total rice imports. This assumption is based on parboiled rice imports as a share of total rice imports as reported in GOL statistics, which show parboiled rice imports as 19 percent of total rice imports in 2008, and 25 percent of total rice imports through June 2009. To derive the estimate for parboiled rice commercial imports, this report relies on commercial rice imports reported in UN Comtrade. At current prices and estimated volumes, monetization of 10 percent of estimated parboiled rice imports would generate approximately \$2.2 million in funds.

Competitive Environment

Liberia rice import market is dominated by five major traders: Fouta Corporation (merged with Sinkor Trading Corporation in 2008), Bridgeway Corporation, SDTM Liberia Inc. and, K&K Corp. These importers know each other well and are generally supplied by the big international rice trading companies such as Louis Dreyfus.⁴⁹ Fouta Corp is owned by Liberians, while the others are Lebanese-owned.⁵⁰ In addition to these commercial importers, Firestone Rubber Plantations Company imports parboiled rice from the United States, which it uses as in-kind partial payment for its employees. According to traders, much of this rice is sold on the Liberian market. Sinkor Trading Corporation became the largest importer of rice in late 2006, replacing Bridgeway and K&K Corp, when the Government granted it exclusive import rights. However, this institutional monopoly disintegrated when Sinkor found itself heavily controlled by the

⁴⁷ Unlike import figures, export, production and food aid data are not disaggregated by rice type.

⁴⁸ The estimate for parboiled rice commercial imports is based on taking 20% of the 5 year average of commercial rice imports from Comtrade. The estimate for average annual imported volumes of parboiled rice is based on the assumption that parboiled rice imports represent on average 20% of total rice imports. This assumption is based on parboiled rice imports as a share of total rice imports as reported in GOL statistics, which show parboiled rice imports as 19% of total rice imports in 2008, and 25% of total rice imports through June 2009.

⁴⁹ USAID/CRS, Liberia Bellmon 2008

⁵⁰ The Liberian constitution stipulates that only people of Negro descent can become Liberians and can own real property in Liberia. Though some of the Lebanese people who operate businesses in Liberia have been there for generations, they cannot become Liberians nor own any real estate outright.

Government so that, after a few import contracts Sinkor did not seek to renew its rice import license. In 2007, the Government resumed the issuance of import licenses to regular importers.

Liberia imports three main types of rice: Long grain (15-25 percent broken) parboiled rice from either China or the United States, medium and short grain 'butter' rice from China; and long grain (15-25 percent broken) white rice, mainly from India, but also from elsewhere in Asia. Of the three, 'butter' rice is the most commonly used and preferred variety. Sinkor supplies about 10,000-13,000 bags (100 lbs each) daily against an estimated demand of 10,000-15,000 bags. It imports three types of rice: parboiled and butter rice from China and white long grain rice from India.

Although there are a number of commercial rice importers in Liberia,⁵¹ CRS signed a memorandum of understanding with the Ministry of Commerce, which specifies guidelines for monetization, including a requirement that CRS only monetize rice with specific companies, a practice which excludes other importers from competing. These five importers were LPMC (a parastatal), Fouta Corporation, Sinkor Trading Company, Fahmah Business Center, and Gateway Inc.⁵² In November 2008, this list was narrowed to three importers: Harmony Trading (Liberia) Inc, Fouta Corporation, and SDTM Liberia Inc (which is now United Commodities Inc). In May 2009, the list was further reduced to Fouta Corporation and SDTM Liberia Inc. With such limited competition for monetized rice, BEST is concerned that fair market prices would not be achieved. In fact, price data show that recent monetizations have been considerably lower than estimated IPP for commercial rice. Monetized parboiled rice has ranged from \$360 per MT in 2006 to \$460 per MT in 2008, increasing to \$600 per MT by 2009; lower than the CIF price for commercial rice, whose average price from January-March 2009 was \$634 per MT.

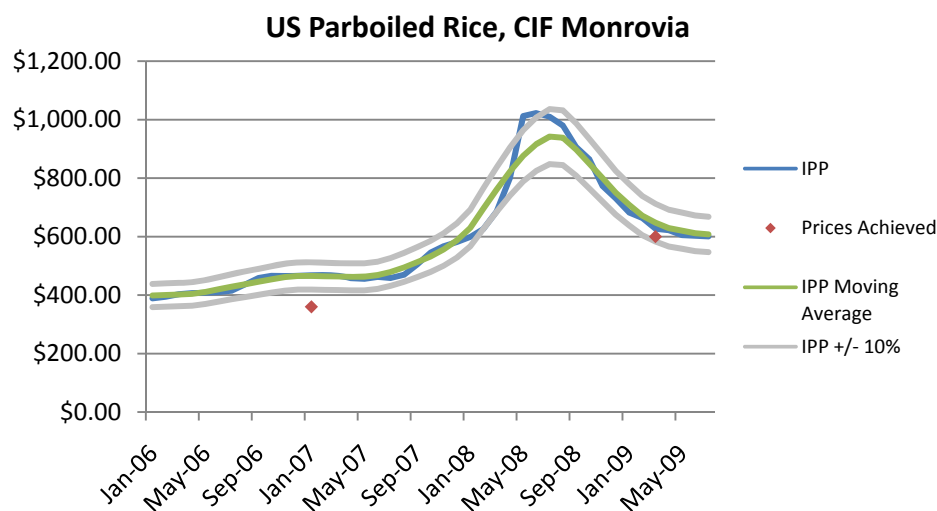
Monetization Past Performance/IPP

Rice has been monetized by CRS twice in recent years: in 2007, 3,000 MT of parboiled rice (in 50-kilogram bags) were sold, and in 2009, 4,860 MT were monetized.⁵³

⁵¹ GOL. Commercial rice importers in 2008 and 2009 included: SDTM Liberia Inc, Harmony Trading, Fouta Corporation, Group 7 Holding Ltd, Aipra Corporation, Bill Delamon Trading Co, DAS Incorporated, LPMC.

⁵² These same importers were also listed as government-approved buyers of wheat flour.

⁵³ 2007 from CRS 2008 Bellmon; CRS

Figure 1: Parboiled Rice IPP Graph⁵⁴

Sources: US Wheat Associates, USDA AMS LGMN, CRS, GoL Ministry of Commerce

As shown in Figure 1 above, the 2007 transaction was approximately 23 percent below estimated IPP while the 2009 transaction was approximately 4 percent below estimated IPP.

Given that the 2007 transaction occurred against the backdrop of both volatile world food prices and a heavily regulated market, it is difficult to assess the specific cause of this relatively poor performance.

Impact Analysis Summary for Parboiled Rice

At current levels of demand, and if open competition can be assured by the GOL, this BEST report recommends that up to 3,427 MT of parboiled rice can safely be monetized. For illustrative purposes, Table 10 (below) provides a range of estimated monetization proceeds based on three potential volumes of parboiled rice.

⁵⁴ A lower quality of parboiled rice is exported from the US to the Liberian market than is available on the US market and prices are not available for this lower grade of rice (personal communication, 8/24/09, CRS). Detailed import data was received from the GOL (for 2008 only), and this series was compared to prices for US 5% Broken Parboiled rice for the period. Averaging 82.7 percent of the value of US 5% Broken Parboiled, prices for the grade of parboiled rice that would be typically imported were imputed by applying this percentage to the price of US 5% Broken Parboiled for each month, Jan 2006 – July 2009.

Table 10: Rice Impact Analysis Summary

Monetization Scenario	1%	5%	10%
Est. Commercial Imports of Parboiled Rice (MT) ⁵⁵	34,268	34,268	34,268
Scenario Volume (MT)	343	1,713	3,427
Est. Total Value of Sale (US\$)** at \$634/MT	\$217,258	\$1,086,292	\$2,172,584

⁵⁵Commercial imports include monetized aid, and are based on a 5- year average

⁵⁶Sales price estimate is average price per MT for parboiled rice during Jan-Mar 2009

The estimate for parboiled rice commercial imports is based on taking 20 percent of the 5-year average of commercial rice imports from Comtrade. The estimate for average annual imported volumes of parboiled rice is based on the assumption that parboiled rice imports represent on average 20 percent of *total* rice imports. This assumption is based on parboiled rice imports as a share of total rice imports as reported in GOL statistics, which show parboiled rice imports as 19 percent of total rice imports in 2008, and 25 percent of total rice imports through June 2009. If 10 percent of estimated parboiled rice imports were monetized, approximately \$2.2 million in sales would be generated.

5.2 WHEAT AND WHEAT FLOUR

BEST assessed **wheat grain** for monetization because the GOL is actively attempting to promote a milling industry. However, there is currently only one established buyer, Premier Milling Company. A monetization by CRS to Premier in 2008 of 1,530 MT of hard red spring wheat resulted in a price of \$270 per MT, which was 45 percent below estimated IPP at that time⁵⁶. Given the lack of substantial commercial imports, current lack of competition and the poor performance of the past monetization sales transaction, this BEST report does not recommend monetizing wheat grain in FY10.

Wheat grain import data is unavailable. Based on a review of wheat grain exports to Liberia, however, BEST determined that the vast majority of bulk wheat imports during the period 2003-2008 were non-commercial: the one-time monetized import of wheat grain (1,530 MT in 2007); and distribution of bulgur wheat through WFP (approximately 20,000 MT to 55,000 MT) and CRS (approximately 2,000 MT to 4,400 MT).⁵⁷ The only commercial bulk wheat imports during 2004 and 2008 were durum wheat in 2005 (13 MT) and in 2007 (179 MT).⁵⁸

⁵⁵ Comtrade data on commercial rice imports were used, rather than GOL import data because GOL commercial rice import volumes showed a doubling of rice import volumes between 2006 and 2008, while Comtrade commercial rice import volumes exhibited an overall decline between 2006 and 2008, which seems more plausible, given the food price crisis during 2008.

⁵⁶ And well below the FOB price of the commodity at the US Gulf port as well – US HRSW was selling for approximately US \$375/MT in November 2007 (US Wheat Associates).

⁵⁷ WFP/Liberia, in CRS Liberia Food Commodity Market Analysis, 2008

⁵⁸ UN Comtrade

Wheat flour can be monetized since Liberia currently imports all of its wheat flour, and there is market competition among wheat flour importers. However, since the GOL limits the number of importers that can bid on monetized wheat flour, there is concern that full IPP may not be realized. To ensure fair market prices are obtained in any future monetization of wheat flour, USAID should require the GOL to allow open bidding by all eligible companies.

Supply Summary

Wheat flour is not produced locally. Liberia imports all of its wheat flour to meet domestic demand. The demand for wheat flour, illustrated by its supply, has been declining since 2006, falling below 2004 levels to approximately 12,500 MT by 2008. Despite the overall decline in imports (and supply), 91,485 MT of wheat flour were imported between 2004 and 2008, making it Liberia's second largest food commodity imported in terms of volume, after rice. Given that bread, fritters, and doughnuts are sold in markets and that, on average, bread is consumed four days a week in urban areas,⁵⁹ demand for wheat flour, as an input to production of these foods, is not expected to decline below 2008 levels.

Table 11: Wheat Flour Supply (MT)

		2004	2005	2006	2007	2008	Total
1	Imports	14,604	21,420	23,539	19,428	12,494	91,485
2	Production	-	-	-	-	-	-
3	Food aid (monetized)	-	-	-	2,500	-	2,500
4	Total Supply	14,604	21,420	23,539	21,928	12,494	93,985

Sources: (1) UN Comtrade; (2) FAO; (3) CRS; (4) Sum of lines 1, 2, 3

Competitive Environment

Although there seems to be ample competition and availability of wheat flour importers in Liberia,⁶⁰ CRS signed a memorandum of understanding with the Ministry of Commerce, which specifies guidelines for monetization, including a stipulation that Awardees can only sell monetized wheat grain and flour to pre-authorized companies. The GOL, via the Ministry of Commerce, specified to CRS the approved bidders for monetization. In March 2007, the Ministry of Commerce authorized five entities for monetization: LPMC, Fouta Corporation, Sinkor Trading Company, Fahmah Business Center, Gateway Inc.

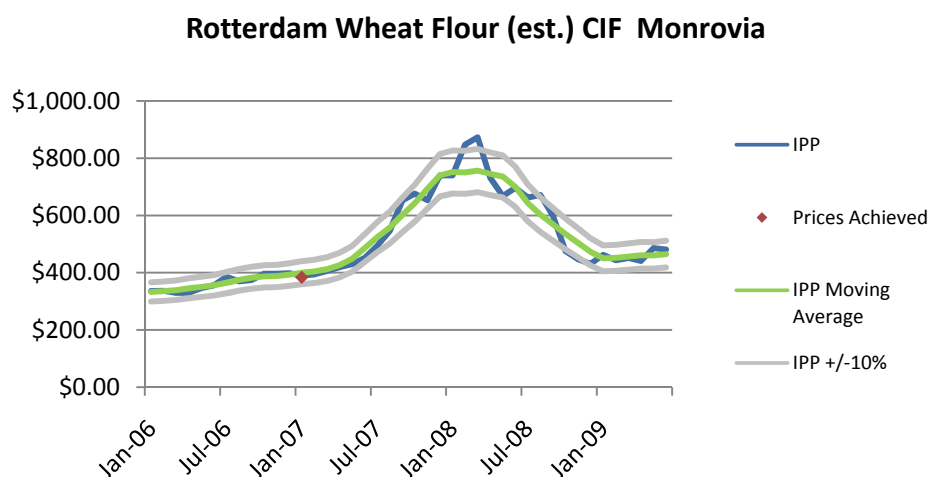
⁵⁹ WFP, VAM Market Review, 2006-2007

⁶⁰ GOL. Commercial importers of wheat flour in 2008 and 2009 included: Venus Corporation, UN Drive Supermarket, Eid Brothers Inc, Roomy Brothers, Merani Store, AFROPA, Monoprix Supermarket, Mukesh Shopping Center, K&K Trading Corp, Mysa Clara Town Store, Universal Import & Export, Eid Supply Center, Kousa Store, Fouani Brothers Corp, SDTM Liberia, Pee Cee & Sons Inc, Bridgeway Corp, ATCO.

Monetization Past Performance/IPP

Wheat flour has only been monetized once in the last few years. In 2007, CRS monetized 2,500 MT and achieved 98.4 percent of IPP,⁶¹ as demonstrated in the chart below.

Figure 2: Wheat Flour IPP Graph⁶²



Sources: USDA FAS, USDA ERS, GoL, International Grains Council, US Wheat

Impact Analysis Summary for Wheat Flour

At current levels of demand, BEST recommends that up to 1,994 MT of wheat flour can be safely monetized. This volume represents 10 percent of the five-year average of commercial imports plus monetized aid imports (19,937 MT). For illustrative purposes, Table 12 provides a range of estimated monetization proceeds based on three potential volumes of wheat flour.

⁶¹ CRS 2008 Bellmon. Note that the 2008 Bellmon indicates a monetization transaction in 2004, 2005 and 2006 as well; BEST research has revealed that 2004 – 2006 were included in error, being accidental reproductions of the years 2000 – 2002.

⁶² The historical price for wheat flour for Germany or the Netherlands (the two major sources for wheat flour imports in Liberia) was not available at the time of the study. Thus, price was estimated based on the average relative price of wheat flour to wheat grain over the period 2006 – present using USDA price series data (Wheat and flour price relationships, Kansas City; USDA ERS). This differential was then applied to the USDA price series for wheat grain sourced from Rotterdam, the Netherlands. That price series for Rotterdam is only available through August 2007; therefore, wheat grain prices for Aug 2007 to present were imputed by applying the average price differential for the period of Jan 2006 – Aug 2007 for No. 1 dark northern spring (14% protein), Rotterdam, to No. 2 hard red winter (ordinary protein), Gulf ports, LA.

Table 12: Wheat Flour Impact Analysis Summary

Monetization Scenario	1%	5%	10%
Est. Commercial Imports (MT)*	19,937	19,937	19,937
Scenario Volume (MT)	199	997	1,994
Est. Total Value of Sale (US\$)** at \$438/MT	\$87,322	\$436,611	\$873,222

*Commercial imports include monetized aid, and are based on a 5 year average

**Sales price estimate is average price per MT for wheat flour during Jan-Mar 2009

5.3 SOYBEAN OIL

Vegetable oil⁶³ was monetized by CRS in very small quantities, in 2004 (497 MT) and 2005 (340 MT).⁶⁴ BEST does **not recommend** monetizing soybean oil, because there is a very small domestic market for soybean oil (see Table 13), and insufficient competition (only one potential buyer: a single edible oil packaging company).

Supply Summary

Palm oil is Liberia's primary edible oil, with vegetable oil and soybean oil as the only other edible oils in demand. National production of palm oil has been approximately 46,000 MT to 47,000 MT over the past five years.⁶⁵ Edible oil imports are approximately 33 percent of production, with palm oil imports comprising the largest share of edible oil imports: 13,648 MT of palm oil, out of a total of 13,722 MT in edible oil were imported in 2008.⁶⁶ Vegetable oil food aid has ranged from 1,577 MT to 3,216 MT over the past few years.⁶⁷

Table 13: Edible Oil - Commercial Imports (MT)

	2005	2006	2007	2008	Total
Edible Oil Imports	15,603	15,671	17,762	13,722	62,758
<i>Of which:</i>					
Palm oil	11,816	10,792	16,633	13,648	52,889
Soybean oil	2,131	1,688	295	37	4,151

Source: UN Comtrade

5.4 REGIONAL MONETIZATION

When competition in a commodity market is severely limited, monetization activities in that market run the risk of introducing or intensifying market distortions, reinforcing those factors which frustrate the development of an open and fully competitive market, thereby contributing to

⁶³ The data do not specify which type of vegetable oil was monetized previously.

⁶⁴ CRS 2008 Bellmon

⁶⁵ USDA-FAS

⁶⁶ UN Comtrade

⁶⁷ Ibid

either excessive profits or barriers to entry. By denying producers and consumers the opportunity to operate within a competitive market, the monetization activity over time could lead to reduced national economic efficiency and assign indeterminate costs to producers and consumers. Monetization in such a market would be contrary to the legal prescription of the U.S. agricultural legislation which requires that monetization does not introduce local market or production disincentives.

Regional monetization (RM), or third-country monetization, can offer a legally-compliant alternative for awardees who find themselves operating in a country with less than fully competitive domestic commodity markets. RM provides awardees with the option of selling into a market where there is sufficient competition among buyers in order to increase the likelihood that bids will be at or near import parity. With competition, there is increased assurance that the monetization will not distort the market and will generate higher revenues than if the monetization is conducted in a domestic market with limited or no competition. RM can generate greater revenue for food security activities and thereby increase the efficiencies of the FFP program. It also provides the CSs with a fallback position if a commodity that was initially recommended for monetization becomes unviable at a later date due to changing market or policy conditions.

Because of highly limited competition and low imports of likely Title II commodities in the Liberian market, RM is a reasonable option.

FFP 2009 Guidelines for Regional Monetization

Monetization in the recipient country is preferred over monetization in a “third” country, a country where the food security activities will not be take place. If it is not feasible to monetize in the country where proceeds will be utilized, monetization may be carried out in another LIFDC in the region, i.e. “third country”. A list of low-income food-deficit countries (LIFDCs) can be found on FAO’s web site at <http://www.fao.org/countryprofiles/lifdc.asp?lang=en>. If the LIFDC option is not feasible, then monetization may take place in a U.N. classified, least-developed country (LDC) in the region at <http://www.un.org/special-rep/ohrls/ldc/list.htm>. In the case of “third country” sales, the USAID Mission and/or U.S. Embassy in both the program country and the monetization country must endorse the plan.’

The appropriate third country or regional market is that market in which one may expect to receive a price for a commodity that is reflective of the international price. As the final destination of the commodities sold is indeterminate, the relevant reference to ensure that the Bellmon “market” conditions are satisfied is that the final negotiated price is comparable to the import price for that market. In addition, the port facilities of the selected market platform need to be sufficient to physically accommodate the commodities.

Monetization in a relatively large port city is preferred because inland freight and other costs will be assumed by the buyer. The preferred currency in which the transaction would be conducted would be specified in the offer. While BEST anticipates undertaking a more extensive regional

market study is planned, data for which should be available at the time the next update is conducted for Liberia, based on the above criteria, Table 14 provides an overview of the products and markets that may be considered for RM:

Table 14: Quantities of Select Commodities Imported in Select West African Ports (5-year average, MT)

Principle Port	Port of Tema (located outside Accra)	Dakar	Abidjan
	Ghana	Senegal	Côte d'Ivoire
Wheat (durum and non-durum)	2,373,772	5,716,646	3,977,258
Rice (broken and semi-milled)	2,088,867	2,027,159	1,309,088
CDSO	292	501,387	8
Milk Powder (Non-Fat)	51,511	1,216	4,594
Grand Total*	4,514,441	8,246,409	5,290,948
LIFDC	✓	✓	✓
Port City	✓	✓	✓
Convertible Foreign Exchange	✓	✓	✓

*Source: UN Comtrade

If RM is selected as an option, a widely-advertised competitive procurement using newspapers, the internet and radio is recommended. Advertisement should be explicit regarding commodity specifications, delivery time range and transaction location, payment terms and required currency. An auction process using a commodity exchange should be considered. Finally, both the Mission Director of the RM country and the MYAP country must endorse the monetization.

6. DISTRIBUTION

6.1 INTRODUCTION

The “Bellmon Amendment” requires assurances that a proposed food aid distribution program would not result in substantial disincentive to or interference with domestic production or marketing in that country. The extent to which distributed food aid has the potential to result in disincentive to local production or in disruption of markets rests fundamentally on whether proposed food aid represents “additional consumption” for beneficiary households, i.e., food consumption that would not have occurred in the absence of the food aid distribution program.⁶⁸ If food aid transfers exceed households’ perceived needs, the beneficiary is more likely to sell the food aid, reduce market purchases of food and/or increase household farm sales. Such a response could lower market prices and/or reduce local incentives to produce.

This pre-MYAP distribution analysis outlines the most likely distribution modalities for the upcoming MYAP cycle and provides Bellmon-relevant guidance and scenarios of possible coverage, where appropriate, that will help ensure potential impact on production and markets of such food aid distributions are minimized, and therefore Bellmon compliant. The presentation of possible distribution modalities and program parameters are based on a review of official USAID guidance and discussions with stakeholders in the field and in Washington (including USAID/FFP and current Title II Awardees (Africare, CRS, Samaritan's Purse), and other important actors in food security in Liberia. These scenarios are meant to serve as illustrative guidance rather than as a prescription given that the potential awardees’ MYAP proposals have yet to be finalized and so are not available to inform the present Bellmon analysis.

6.2 POTENTIAL FOOD AID DISTRIBUTION MODALITIES DURING FY2010-2014 MYAP CYCLE

There is broad scope and range for an array of Title II-funded development interventions in Liberia. As outlined in the USAID Food Security Country Framework for Liberia for FY2010-2014 (FSCF),⁶⁹ the upcoming MYAP cycle will most likely apply two modalities for *distributed* food aid to address Title II program priorities in Liberia: Food for Work (FFW) and Maternal Child Health Nutrition (MCHN) interventions, likely in the form of a Prevention of Malnutrition in Children Under Two Approach (PM2A). To help ensure proposed programs will not result in

⁶⁸ Ideally, one would conduct household surveys to assess whether or not food aid would represent additional consumption. However, because household surveys are both extremely expensive and time-consuming, proxy indicators of ‘additionality’ can be used to assess the potential for leakage. This is the approach taken in the present analysis.

⁶⁹ USAID Food Security Country Framework for Liberia for FY 2010 – FY 2014. Food and Nutrition Technical Assistance II Project (FANTA-2), Academy for Educational Development (AED), Washington, DC, 2009.

substantial disincentive or market disruption, presented below are: (1) a set of key considerations for all distributed food aid interventions in Liberia, and (2) an outline of general guidelines for each of these two most likely modalities. This analysis focuses special attention on PM2A for three reasons: (1) it is an evidence-based MCHN intervention designed to promote long-term human capital outcomes, and therefore a logical focus of any non-emergency Title II program wherever a MCHN intervention is warranted; (2) because PM2A is a new method, not only is there need for broad-based understanding of program design among key decision makers, but probable room for adjustment in ration design among potential awardees; and (3) most important for the present analysis, because it is designed to prevent malnutrition rather than recuperate children and mothers who are already malnourished, it has greater potential to over-provide food rations, which could potentially cause Bellmon concerns.

6.3 KEY CONSIDERATIONS FOR ALL DISTRIBUTED FOOD AID INTERVENTIONS IN LIBERIA

Finding the Right Balance Between Title II Food and Cash Resources

For distributed food aid in Liberia, as in any other development program, the volume of distributed food rations should be calibrated based on the cash resources necessary to fund all of the inputs required to obtain desired program impact. These resources include staff, non-food ration health and nutrition services and inputs (community health volunteers, preventive and curative medicines, etc.), and ongoing Monitoring and Evaluation (M&E), etc. In the case of PM2A, these necessary cash inputs may be greater than in other direct feeding interventions.

Each direct feeding program will involve different levels of food and non-food costs. The BEST Team tabulated estimates for program scenarios to illustrate the potential monthly food cost per beneficiary household. Applying the standard food distribution ration formula used by the WFP for FFA, and BEST calculations for PM2A, the estimated costs of providing monthly rations to each beneficiary household in Liberia are presented in Table 15. The estimates show that it would cost \$22.74 for FFW, while PM2A with both individual mother/child and household rations distributed year-round would cost \$11.63, whereas if mother/child rations are distributed year-round but distribution of household rations to all PM2A-eligible households is limited to lean season months, PM2A would cost an average \$7.31 per beneficiary month.

Table 15: Estimated Cost of Monthly Rations, by Modality, for Liberia (\$)

FFW ⁷⁰	PM2A ⁷¹ (mother/child ration plus household ration year- round)	PM2A (mother/child ration year-round but household ration limited to lean season)
\$22.74	\$11.63	\$7.31

The *non-food ration cost* per beneficiary household for *implementation* of each distribution program will vary widely depending on, among other things, awardees' capacity, beneficiary coverage and the level of integration of program interventions. Non-food ration costs are excluded for purposes of this illustration. The full cost estimates could be considerably different from those presented in the table. Both PM2A and FFW interventions are expected to play an important part of a much broader and integrated development intervention and, therefore, it is infeasible to accurately estimate such costs.⁷²

Local Diet Should be Considered in the Selection of Appropriate Commodities for Distribution

Beneficiaries are more likely to optimize the food aid as designed if the commodity is culturally acceptable and/or the distribution is accompanied by nutrition education and awareness.

Rice is the basic staple in Liberia. A survey of the 2005 harvest found that rice is produced by the majority of food crop-producing households (71 percent) and largely consumed out of own production (also an average 71 percent), though 81 percent of households also must purchase rice on the market to meet their rice needs. Cassava is the second most important food crop – with nearly 67 percent of farmers planting, and 57 percent consuming cassava from own production. Vegetables and other tubers are reported less frequently, and groundnuts and pulses are hardly reported at all, with the exception of one county in the traditional breadbasket (Lofa) (CFSNS 2006).

Timing of Ration Delivery is Critical

Food distributed during the lean season is more likely to be consumed by beneficiaries, therefore minimally disruptive (if at all) because of shortages of household stocks combined with

⁷⁰ Based on a monthly ration of 63.13 kg per household of six persons and consisting of bulgur (50 kg), yellow split peas (10 kg) and vegetable oil (3.13 kg).

⁷¹ For illustrative purposes, BEST assumed the following about the size and composition of the PM2A rations: Individual monthly rations of 6 kilograms of Corn Soya Blend (CSB) for pregnant and lactating mothers and 3 kilograms of CSB for children 6-24 months. Monthly household rations of 13 kg per household based on a household of 6 persons, and consisting of bulgur (10 kg), lentils (2 kg) and vegetable oil (1 kg) distributed either year-round or during a six-month-long lean season. The calculations underlying these estimated ration costs are detailed further in Annex 9.

⁷² For a discussion of food ration versus non-food ration costs in a PM2A program, please see Maluccio John and Cornelia Loechl. 2006. "Preventive versus Recuperative Targeting of Food Aid: Accounting for the Costs" accessible via http://www.fantaproject.org/pm2a/IFPRI_R2_0306.pdf

high market prices. The high variability of staple prices between seasons affects household income and consumption. The lean season in Liberia is generally a six-month period between May and October. Please see Annex 2 for a seasonal agricultural calendar for Liberia, and Annex 5 for details about seasonal variations across regions and commodities.

Where food aid distribution is viewed as either a short-term and/or unreliable source of food, subsistence farmers will be less likely to adapt planting decisions in response to distributed food aid rations. Informants noted that occasionally beneficiaries sell a portion of the food aid ration at the local market in exchange for more preferred commodities. During June 2009 in-country market visits and surveys, no *Title II* commodities were found in the marketplace. However, the sale of considerable quantities (estimated at between 10 and 20 percent of local market total volumes) of bulgur wheat distributed by WFP were observed during BEST market visits. Surveys for the Liberia Market Review 2006-2007 also found substantial food aid commodities in markets across the country, both at retail and wholesale level.⁷³ The main food aid commodities for sale were bulgur wheat, split peas, vegetable oil and CSB (corn soy blend). Bulgur wheat was sold at L\$5 per pound, which was about half the price of 'country' and 'butter' rice. CSB was sold at about L\$15 per pound, while split peas went for L\$7.50 per pound. During the field visits, bulgur wheat was found in 19 out of the 21 markets surveyed; the only exceptions were Gbarpolu and River Gee. It was sold by more than ten retailers per market in Bong, Grand Cape Mount, Lofa, Montserrado and Nimba. Most of the food aid commodities reached markets through either individual beneficiaries (returning IDPs, refugees from camps inside and outside Liberia, participants of FFW activities) selling or exchanging them for other goods or the diversion of rations meant for school children and the nutritionally vulnerable between the port of entry and distribution point.⁷⁴

Sufficient Staffing for Effective Implementation is Essential

While effective staffing and oversight should be a key component of every food aid program, given the degree of corruption which currently permeates Liberian civil society, future MYAPs must program for sufficient staffing to guarantee sufficient oversight of program operations, including those programs that depend upon implementing partners.

6.4 GENERAL GUIDELINES TO ENSURE PROPOSED FFW AND PM2A PROGRAMS WILL NOT RESULT IN PRODUCTION DISINCENTIVE OR MARKET DISRUPTION

6.4.1 Food for Work

The intent of FFW is to create food-wage employment during slack periods when rural unemployment increases. The rise in unemployment results in lower rural incomes at precisely the time of year when staple prices tend to spike because of food shortages in local markets.

⁷³ WFP VAM LMR 2006-2007

⁷⁴ Ibid

FFW activities may vary but, in Liberia, will likely focus on activities to support the clearing and preparation of swamplands for cultivation, and to support *kuu* labor activities⁷⁵ at critical phases of the cultivation cycle. Wage payments are generally made in-kind rather than in cash. If designed correctly, this practice can stabilize the price of staples in the market and improve food consumption and nutrition of participating households. If designed and implemented appropriately, FFW can also increase productivity on semi-subsistence farms.⁷⁶

Key considerations to ensure Bellmon compliance of proposed FFW programs

To encourage self-targeting and avoid drawing labor from other agricultural production or livelihood activities, the income transfer value of the ration should be set at slightly less than the prevailing rural wage. It may also be appropriate to include slightly less preferred but still culturally-acceptable commodities in the FFW ration. If the value of the FFW ration is too high, it can disrupt local labor markets by attracting more laborers and the food may not benefit the most needy individuals, women and families. Inclusion of a food used commonly in child feeding may also help in self-targeting women.

Timing of food distribution is critical. FFW commodity distribution will be less disruptive if distributed during the lean season rather than during the harvest season. Indeed, by increasing the demand for labor at the time when staple prices typically spike, careful timing of food wage payments under FFW can help smooth consumption of food insecure households. During the lean period, rural households, especially the poorest, have little reserves of food from markets because of high prices. By carefully timing FFW activities to coincide with the lean season, FFW will maximize food security impact. The lean season in Liberia is generally May to October, though there are regional variations which should be incorporated into the design of FFW activities. See Annex 2 for a seasonal calendar and Annex 5 for details about seasonal variations across regions and commodities.

As noted above, there must be *sufficient supervisory capacity* for any proposed FFW activities to minimize possible leakages.

Where warranted and possible, *FFW should target female-headed households*, as recent evidence suggests female-headed households are more vulnerable.⁷⁷ Prior to such targeting, awardees should investigate the availability of female labor during the typical lean periods to ensure women could participate effectively in such gender-targeted FFW activities.

For further guidance on the appropriate design of FFW activities, please see USAID's Commodities Reference Guide, accessible via http://www.usaid.gov/our_work/humanitarian_assistance/ffp/crg/module2.html

⁷⁵ The *kuu* system is a traditional community-based cooperative labor arrangement, which supports key phases of the cultivation cycle such as brushing and clearing activities.

⁷⁶ Abdulai, A., C. B. Barrett, and J. Hoddinott. 2005. "Does food aid really have disincentive effects? New evidence from sub-Saharan Africa." *World Development* 33:10.

⁷⁷ Liberia Demographic and Health Survey 2008.

6.4.2 Prevention of Malnutrition in Children Under Two Approach (PM2A)

PM2A presents both an opportunity for long-term human capital investment, and a unique challenge to avoid disincentives in the short-to-medium term. While the traditional recuperative approach targets children who are already malnourished and may have severe, irreversible physical and cognitive damage, the PM2A provides food aid to all children between the ages of 6 to 24 months within a target geographic area. As with the traditional recuperative nutrition approach, the PM2A also targets pregnant and lactating women with Behavior Change Communication (BCC), preventive health care, and food supplementation. Because the key PM2A targeting criteria are based on a child's age and a women's physiological status, rather than on an estimated household food deficit, the program has greater potential to provide food aid to households for whom the food aid would not represent additional consumption. Initial geographic targeting of areas with a greater proportion of food-deficit households, as identified by secondary sources prior to program implementation, will help avoid disruption of local production and markets.

Geographic Targeting and Beneficiary Coverage

Because of the localized nature of the impact of distributed food aid, the vulnerability of small markets to disruptions, and the sensitivity of small farmers to production disincentives, quantities which may appear insignificant compared to a country's total food staple consumption can nonetheless have a major impact on markets and production at the local level.

To assess the relative absorptive capacity of food aid on a sub-national basis in Liberia, thereby providing Bellmon guidance on the appropriate magnitude of distributed food aid under a PM2A, this report relies on an indicator of food insecurity as the proxy indicator of additionality. Specifically, this analysis relies upon the "food insecure" and "highly vulnerable" categories of food insecurity as defined in Liberia's Comprehensive Food Security and Nutrition Survey (CFSNS 2006). This composite indicator of food consumption and food access is the best available indicator of the relative absorptive capacity of food aid on a county-level basis for Liberia, which is important to inform initial geographic targeting given the nature of the PM2A.⁷⁸

A household food consumption score is not a quantitative measure of any nutrition gap, which could then be compared with the ration under the proposed food aid program to determine by how much the 'nutrition gap' might be filled (or potentially overfilled) under the program. However, a food consumption score, which makes up part of the CFSNS food security indicator, provides a snapshot of both the frequency and diversity of household staple consumption and is, therefore, a reasonable proxy indicator of the availability and access dimensions of food security and, to a lesser extent, the utilization dimension. The food access measure provides an

⁷⁸ The CFSNS food security indicators are based on household and community surveys implemented between February and June 2006. The sample was designed so that results would be statistically representative at the county level. More details on how household food consumption and access were combined into a single household food security profile, please see CFSNS, pp. 37-45.

indicator of a household's ability to produce or purchase food, which is presently the only poverty measure available at the county-level.⁷⁹ The counties with the highest proportion of households with poor food consumption were River Gee, Grand Gedeh, Lofa and Gbarpolu.

Chronic malnutrition (stunting, or low height-for-age) in children under five is an additional potential indicator of chronic food deficits.⁸⁰ Malnutrition rates may reflect either inadequate intake, malabsorption due to infectious disease, or some combination of both. To the extent rates reflect disease prevalence much more than inadequate intake, any conclusions drawn from such rates will be an inaccurate reflection of household food deficits. To the extent the prevalence of stunting reflects poor availability and/or poor access, such prevalence rates can appropriately inform geographic targeting from a Bellmon perspective.

Where a high percentage of households report both poor food consumption and poor food access and surveys show high rates of chronic malnutrition in children under five, poor nutritional outcomes will likely be more responsive to food aid intended as supplemental nutrition. By geographically targeting areas where these indicators coincide, a PM2A intervention will help ensure that any given PM2A beneficiary household will more than likely increase overall household food consumption, and therefore represent additional consumption, relative to households in other geographic areas with lower rates of poverty and chronic malnutrition. Table 16 provides an overview of the estimated number of households potentially eligible for a PM2A intervention, for the number of PM2A-eligible households for which food aid would be most likely to represent additional consumption.

⁷⁹ For details on the calculation, use and validity of food consumption scores and other measures of dietary diversity in food security analysis, please see: (1) CFSNS 2006, pp. 37.45; (2) WFP's "Technical Guidance Sheet - Food Consumption Analysis: Calculation and Use of the Food Consumption Score in Food Security Analysis", accessible via http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp197216.pdf; (3) Wiesmann, Doris. June 2009. "Validation of the World Food Programme's Food Consumption Score and Alternative Indicators of Household Food Security," IFPRI Discussion Paper 870, Washington DC; and (4) Hoddinott, John and Yisehac Yohannes. 2002. "Dietary Diversity as a Food Security Indicator," IFPRI Discussion Paper 136, Washington DC: IFPRI.

⁸⁰ The 2007 Liberia DHS is the most recent source of reliable malnutrition rates at a sub-national level. Those figures are not reported here because DHS relies on the WHO reference population and is therefore not comparable to the 2006 CFSNS results and is only representative at the regional level – which is too aggregated for the present analysis.

Table 16: Estimated Number of PM2A-eligible Households for Whom Food Aid Would Be Most Likely to Represent Additional Consumption

County	1	2	3	4	5	6	7
	Population (proj. 2010)	# HHs	% Food Insecure HHs	% Highly Vulnerable HHs	% children under 5 stunted	est. pop. of eligible children & mothers	# Food Insecure or Highly Vulnerable HHs w/ an eligible child & mother
Grand Kru	61,388	9,592	14%	58%	47%	3,745	2,696
River Gee	70,796	10,892	20%	52%	46%	4,319	3,109
Nimba	489,748	87,455	9%	47%	45%	29,875	16,730
Bomi	89,166	22,292	13%	54%	44%	5,439	3,644
Grand Bassa	234,995	51,086	2%	35%	44%	14,335	5,304
Bong	353,490	75,211	8%	42%	43%	21,563	10,781
Sinoe	108,534	16,959	8%	44%	42%	6,621	3,443
Maryland	144,094	20,585	6%	41%	41%	8,790	4,131
River Cess	75,800	15,160	6%	35%	41%	4,624	1,896
Grand Gedeh	132,773	19,526	10%	39%	39%	8,099	3,969
Margibi	222,518	48,374	5%	28%	37%	13,574	4,479
Grand Cape Mount	134,701	25,904	2%	16%	32%	8,217	1,479
Montserrado	1,185,335	246,945	10%	35%	32%	72,305	32,537
Lofa	293,475	53,359	28%	48%	31%	17,902	13,605
Gbarpolu	88,391	16,071	18%	42%	30%	5,392	3,235
TOTAL	3,685,204	719,408	11%		40%	224,797	111,039

Notes: [1] and [2] GOL Census 2008; [3-5] CFSNS 2006; [6] author's calculations based on GOL Census 2008; [7] col [3] times col [6] + col [4] times col [6]

Since an awardee's catchment areas may cover only part of one or more counties, potential awardees must conduct a more careful enumeration of PM2A-eligible households within their proposed catchment areas to determine possible levels of coverage. However, the second column from the right provides a rough estimate of the maximum number of PM2A-eligible households within each district, and therefore provides a guideline for the number of beneficiary households that might be targeted to reach 100 percent coverage by district.

The right-most column, which shows the estimated number of households who are either PM2A-eligible *and* Food Insecure or Highly Vulnerable (and therefore most likely to benefit from food aid as additional consumption), provides a rough guideline of the number of households that could be targeted for year-round household rations within each district without introducing

Bellmon concerns. These figures are meant to serve as general guidance since they are based on analysis of secondary data which, by its nature, will provide less precise guidance than well-designed and implemented baseline surveys in awardee implementing areas.⁸¹

By combining food insecurity status and stunting in children under five, a ranking system was used to identify counties in which PM2A rations would (1) most likely represent additional consumption, and therefore would be unlikely to pose any negative Bellmon impact, and (2) address the highest rates of malnutrition at the county level; and (3) target the largest total number of PM2A-eligible households, an important efficiency consideration when implementing an integrated development program. Importantly, these findings at the county level may mask important differences within each county. Further targeting of extremely poor communities within each of these counties will ensure even greater likelihood of increasing consumption at the household level.

Targeting a PM2A intervention towards the poorest communities within any one or more of the counties with the highest proportions of chronically food insecure households and rates of stunting in children under five which are above the rural average would be least likely to pose any Bellmon concerns. These counties include Bomi, Grand Kru, River Gee, Nimba, Sinoe, Bong and Grand Gedeh. An estimated two-thirds to three-quarters of all households in the four counties of Bomi, Grand Kru, River Gee and Nimba are food insecure; these counties also have the highest rates of stunting among children under five. Implementation of a PM2A in Nimba would reach the greatest number of PM2A-eligible beneficiary households. The counties of Sinoe, Bong and Grand Gedeh also have a high proportion of food insecure households, along with near or above-the-rural-average rates of chronic malnutrition. Like Nimba, Bong has a significantly larger population of PM2A-eligible households than the other highlighted counties.

Whichever counties are targeted, the BEST guidance for county-specific maximum beneficiary coverage is to target no more than the estimated number of households which are *both* PM2A-eligible (households with either a pregnant or lactating mother and/or a child under two years of age) *and* chronically food insecure. These estimates are reported in the right-most column of Table 16 above.

⁸¹ One word of caution is in order regarding the levels of food insecurity reported for Lofa and Gbarpolu in the CFSNS 2006. As reported in the 2008 country-wide Liberia and Greater Monrovia Food Security and Nutrition Surveys (LFSNS), largely due to population displacement associated with the war, Liberian population exhibits both chronic and transitory food insecurity with substantial regional variation in the two. Chronic food insecurity is concentrated in counties within the southeastern region, while the northwest and central regions historically have faced more transitory food insecurity. A comparison of the 2006 CFSNS county results with the 2008 LFSNS region-level results (not reported here) confirm these assertions as southeastern counties such as River Gee and Grand Kru show relatively high levels of chronic food insecurity while northwestern and central counties, such as Bong, Grand Bassa and Cape Mount have relatively low levels of chronic food insecurity. There is some discrepancy with a few northwestern counties such as Lofa and Gbarpolu depicting high levels of chronic food insecurity in 2006. However, this discrepancy may be attributable to the high rates of displaced persons returning to these counties after 2005 (and just before the LFSNS survey was fielded) (see CFSNS 2006 for displacement status by county).

Whether it will be feasible or appropriate to concentrate resources into communities in more than one county will depend on overall funding and integrated program design. Regardless of which counties are targeted, the volume of distributed food rations should be calibrated based on the cash resources necessary to fund all of the inputs required to obtain desired program impact. Particularly where malnutrition is heavily influenced by the status of women and poor feeding practices, as in Liberia, sufficient cash resources to support the strategic use of food rations in a PM2A activity will help to ensure the food rations will represent additional consumption at the household-level, and therefore be Bellmon compliant. Where critical complementary health services and inputs are more readily available, the use of food rations to support long-term improvements in child nutrition outcomes will be particularly efficient.

Additional indicators important for evidence-based geographic targeting, such as coping strategies, typical hazards and shocks, sources of food and income are outlined in Annexes 3, 4 and 5. Further guidance on the geographic distribution of food insecurity, including regional disparities in food availability, access and utilization, are also detailed in the FSCF.

Strategic Use of Food Rations to Achieve Maximum Impact on Nutritional Outcomes

There are no current Title II Awardees implementing MCHN programs in Liberia. Therefore, it is difficult at this stage to anticipate what geographic coverage or PM2A ration might be proposed for distribution should a MYAP propose a PM2A as one part or its entire proposed MCHN program.

Individual Rations for Mother and Child

Individual PM2A rations are expected to cover all pregnant or lactating mothers and children under two years of age within a catchment area. The purpose of the individual rations directed towards pregnant and lactating mothers and children under two is nutritional supplementation, which narrows the appropriate composition and size of the mother and child rations to those that follow nutritional guidelines for individual physiological needs. For the purposes of the present BEST analysis, the ration is assumed to be composed of blended cereals, while the ration size is assumed to provide approximately 500 kcal per person per day for children 6 to 24 months of age, and 1000 kcal per person per day for pregnant or lactating mothers.⁸²

Labeling individual rations as “special” food may help to ensure that food aid is consumed by intended beneficiaries. Nutrition interventions such as PM2A that target pregnant and lactating mothers and children under two may be neutralized if the beneficiary household chooses to reallocate resources away from the mother and child as a result of receipt of individual PM2A

⁸² For purposes of the Bellmon analysis, the individual rations and kcal per person per day needs have been utilized for mother and children commodity calculations as indicated. However, please see FANTA-2's PM2A Technical Resource Materials (TRM) and other related guidance on calorie needs accessible via <http://www.fantaproject.org/pm2a/index.shtml>.

rations. While there is some evidence⁸³ that transfers may not always be reallocated away, labeling individual rations as “special” food may help to ensure the nutritional supplements are consumed by the intended individual beneficiaries, which will maximize the nutritional benefits of PM2A interventions.

In accordance with formative research on the underlying causes of early childhood malnutrition, PM2A guidance requires BCC messages and a suite of health and nutrition-related services as integral components of a preventive approach to malnutrition. By delivering the food ration as part of a carefully-designed package of MCHN interventions custom-tailored to beneficiary communities, a PM2A activity will increase further the likelihood that direct beneficiaries will consume and correctly use additional food, which will simultaneously maximize nutritional impact and minimize any potential negative Bellmon impacts.

Household Ration

Unlike individual rations, the household ration is not intended to serve as nutritional supplementation; rather, it can serve several different purposes including:

- Protection of mother and child rations from diversion or dilution to other household members
- An additional incentive for the mother and/or other household members to participate in key PM2A activities (BCC messages, attendance at health clinics for growth monitoring or other well visits, etc.)

A household ration may also act as an additional income transfer which enables extremely poor households to more effectively participate in integrated development programs. Given that PM2A activities (inclusive of ration provisions to individual and household beneficiaries) are intended to form one part of an overarching integrated rural development program, there may, however, be other mechanisms through which awardees would choose to provide such an additional income transfer.

Precisely because it is not intended as a nutritional supplement and because it can serve several purposes, a household ration is more malleable in terms of contextualization to reflect community norms and needs. The preventive approach that was successfully piloted in Haiti provided a household ration composed of blended foods, pulses and oil to all households within the catchment area on a year-round basis, regardless of household wealth status or food deficit. Future awardees may consider different scenarios depending on a variety of factors (e.g., community needs, food preferences and logistics, etc.), which may lead to a more strategic use

⁸³ Islam, Mahnaz and John Hoddinott. Feb 2008. “Evidence of Intra-Household Flypaper Effects from a Nutrition Intervention in Rural Guatemala,” working paper, accessible via: <http://ssrn.com/abstract=1262368>; Adelman, S., D. Gilligan and K. Lehrer. 2008. “How Effective are Food for Education Programs? A Critical Assessment of the Evidence from Developing Countries,” International Food Policy Research Institute Food Policy Review 9, accessible via: <http://www.ifpri.org/sites/default/files/publications/pv09.pdf>

of household rations, both in terms of household ration composition, size, and frequency and timing of delivery. Based on formative research, future awardees may consider different household ration designs, which will require ongoing monitoring and evaluation to ensure the household ration is appropriately designed to ensure protection of individual rations while maintaining acceptable levels of program participation.

As noted above, no Title II Awardee is presently implementing MCHN interventions in Liberia. A potential awardee must conduct formative research to ensure design intervention and most effective ration size and composition to address nutritional needs of mothers and children while minimizing potential negative impacts on markets and production. To determine the appropriate size of a household ration, potential awardees should review all available evidence of estimated household food gaps within the proposed targeted communities.⁸⁴

Whether it will be critical to the success of a PM2A intervention to provide household rations year-round to all PM2A-eligible households to discourage diversion of direct rations to other household members can only be determined through formative research to understand issues of intra-household sharing and barriers to participation in order to determine the appropriate size, composition, beneficiary coverage and frequency of delivery of household rations. While potential awardees must target individual rations to all pregnant and lactating mothers and children under two within a catchment area on a year-round basis, awardees may consider a number of different options for inclusion of household rations. Among the many options, two possibilities are:

1. Target household rations to *all* PM2A-eligible households, regardless of household food insecurity or wealth status
2. Target household rations to *all* PM2A-eligible households, but limit distribution of household rations to the lean season months

Whatever coverage and delivery frequency of the household ration is ultimately deemed most appropriate for the target communities, awardees are expected to ensure that household rations are sufficient to protect the woman and child direct rations without reducing participation while minimizing Bellmon concerns.

One note of caution is warranted regarding the extent of coverage of household rations in Liberia: Dependency and a sense of entitlement still exist in some communities as a result of

⁸⁴ One potential source of estimated food gaps is the new Food and Agriculture Organization (FAO) “depth of hunger” estimates which estimate the national average food deficit (in kcal/person/day) for the undernourished population. These figures provide a useful national benchmark which can be used prior to conducting formative research in proposed target communities to determine in more precise detail the average household deficits of beneficiary households. The most recent estimated food deficit for Liberia (2003-2005) is 350 kcal per person per day.

the civil war and its aftermath. While extreme poverty constrains access, effectively encouraging increased agricultural production and income-generating activities, while simultaneously providing indirect household rations under the umbrella of a PM2A has a higher likelihood of introducing disincentives. Special care should be taken in designing any integrated development intervention that might send counter-acting messages to beneficiary communities.

The sections that follow present two possible PM2A funding scenarios regarding the individual and household rations, with associated commodity volumes and potential beneficiary household coverage. The first scenario is based on the ration design from the Haiti pilot in which a monthly ration was provided to individual beneficiaries (mother and child) and beneficiary households for each month of participation, but the child rations are reduced to reflect the physiological capacity of children under two. The second scenario is based on the same principle of coverage, in which mother and child rations are provided on a year-round basis, and household rations are again provided to all PM2A-eligible households but limited to lean season months.⁸⁵

Whether the scenarios represented in Table 17 are the most appropriate levels of intervention will depend critically on (1) whether there are sufficient cash resources available to effectively support a PM2A intervention, even if appropriately geographically targeted to chronically food insecure communities in Liberia; and (2) whether potential awardees determine through formative research and their ongoing monitoring and evaluation efforts that it is necessary to provide household rations year-round to all PM2A households.⁸⁶

Table 17: Funding Scenarios for PM2A Rations in Liberia

Country Program Funding Devoted to PM2A Rations	Total Annual Volume of Commodities	Ration	Number of Beneficiary Households Covered Under Program
\$2.7 million	3,993 MT	<ul style="list-style-type: none"> • mother/child rations year-round to all PM2A-eligible HHs • HH rations year-round to all PM2A-eligible HHs 	19,347
\$3.6 million	5,322 MT		25,795
\$4.5 million	6,653 MT		32,244
\$2.7 million	3,950 MT	<ul style="list-style-type: none"> • mother/child rations year-round to all PM2A-eligible HHs • HH rations year-round to all PM2A-eligible HHs but limited to lean season 	30,780
\$3.6 million	5,268 MT		41,040
\$4.5 million	6,585 MT		54,720

The hypothetical funding scenarios and the table of the potential beneficiary households show that a funding level at approximately \$4.5 million (50 percent of estimated total available funding) could cover approximately 32,244 households if both individual and household rations are provided to all PM2A-eligible households on a year-round basis. If the household ration is

⁸⁵ This percentage is based on the national average of PM2A-eligible households who are either food insecure or highly vulnerable (see Table 16 above).

⁸⁶ For a discussion of food ration versus non-food ration costs in a PM2A program, please see Maluccio John and Cornelia Loechl. 2006. "Preventive versus Recuperative Targeting of Food Aid: Accounting for the Costs" accessible via http://www.fantaproject.org/pm2a/IFPRI_R2_0306.pdf

instead provided to all PM2A-eligible households but limited to the lean season (assumed six months), the number of households that could potentially be covered increases to 54,720. Depending on the ultimate size of the indirect household ration, by adding in the additional income transfer throughout the year, program coverage is necessarily reduced, perhaps significantly. However, such an additional income transfer may be very appropriate particularly when targeting communities with a large percentage of extremely poor households.

The level of coverage is important from a Bellmon perspective because not only does it translate into a volume of food aid commodities being introduced into a local area (and therefore potentially affecting markets and incentives to produce), it hints at the non-food ration costs that must be available to effectively support all of the other program activities.⁸⁷ Behavior Change and Communication, and other health and nutrition services are essential inputs into any program designed to address many of the underlying causes of early childhood malnutrition which are *not* a function of lack of food availability. Particularly where malnutrition is a heavily influenced by poor feeding practices, as in Liberia, sufficient cash resources to support the strategic use of food rations in a PM2A intervention designed to affect long-term nutritional outcomes will help to ensure the food rations will represent additional consumption at the household-level, and therefore be Bellmon compliant.

Whether it is necessary to provide household rations year-round to all PM2A households in order to achieve desired nutritional outcomes, it will be important that food aid be provided as one element of an integrated development program and that the number of beneficiaries receiving food aid ideally should not exceed the number that can be supported by the associated income-generating and agricultural development activities. As such, it is anticipated that the availability of finance for integrated development activities will limit beneficiary coverage and constrain the use of food aid rations, rather than the availability of food aid itself.

For further guidance on the appropriate design of MCHN interventions generally, and PM2A specifically, please see USAID's Commodities Reference Guide, accessible via http://www.usaid.gov/our_work/humanitarian_assistance/ffp/crg/module1.html, and FANTA-2's PM2A Technical Resource Materials (TRM) and other related guidance accessible via <http://www.fantaproject.org/pm2a/index.shtml>.

Existing Food Aid and Cash Transfer Programs

Whichever modalities are proposed, it will be important to avoid duplication of ration coverage, on the one hand, and capitalize on complementary services through coordination of development interventions on the other.

⁸⁷ For a discussion of food ration versus non-food ration costs in a PM2A program, please see Maluccio John and Cornelia Loechl. 2006. "Preventive versus Recuperative Targeting of Food Aid: Accounting for the Costs" accessible via http://www.fantaproject.org/pm2a/IFPRI_R2_0306.pdf

ANNEX 1: ECONOMIC DATA & TRENDS

Table 18: Economic Growth

	2001	2002	2003	2004	2005	2006	2007
GDP (current US\$) (millions)	543	559	410	460	530	612	735
GDP growth (annual % change)	3	4	-31	3	5	8	9
Inflation, GDP deflator (annual % change)	12	26	3	1	14	9	16

Source: *The World Bank*

Poverty Rates

The 2007 Core Welfare Indicator Questionnaire (CWIQ) found that 68 percent of the rural and 55 percent of the urban population lives on less than one US dollar per day (52 percent are estimated to live in extreme poverty, i.e. below \$0.50 per day.⁸⁸ It is ranked 176th out of 179 countries in the 2008 Human Development Report.

Global/Regional Economic Linkages/Memberships/Agreements/ Partners

Liberia is a member of the African Union (AU), the Economic Community of West African States (ECOWAS), the African Development Bank (ADB), the Mano River Union (MRU), the Commonwealth, and the Non-Aligned Movement. Relations between Liberia and its immediate neighbors in the Mano River region are back on track; it currently holds the chairmanship of the Union. Liberia also signed a non-aggression pact with Sierra Leone in September 2007. In 2007, Liberia applied for World Trade Organization (WTO) membership, and a Working Party to examine its application was established.⁸⁹ Liberia's exports are eligible for duty-free access to the EU under the "Everything-But-Arms" initiative for least-developed countries. It is also a beneficiary of the Generalized System of Preferences (GSP), with several industrialized countries; and its exports enter the United States duty free under the Africa Growth and Opportunity Act (AGOA).

Major Products and Service Industries

Liberia was a major exporter of iron ore on the world market prior to the civil war. Prior to the war, iron mining accounted for more than half of Liberia's export revenues. Declining world demand for iron ore and political upheavals in the 1980's plunged the economy into ruins. The

⁸⁸ WFP, LFSNS, 2008, page 3, "Protracted Relief and Recovery Operation (PRRO) Liberia"

⁸⁹ As of April 2008. See the World Trade Indicators 2008 database at <http://www.worldbank.org/wti2008>.

agricultural sector continues to comprise the largest share of GDP. Industrial activity includes on agro-processing, iron ore, diamond and gold mining, rubber processing, forestry, food and beverages, and construction.

Table 19: Decomposition of GDP

	2001	2002	2003	2004	2005	2006	2007
Agriculture, value added (% of GDP)	73	76	72	68	66	55	54
Industry, value added (% of GDP)	10	8	11	13	16	17	19
Services, etc., value added (% of GDP)	17	16	18	18	18	28	27

Source: The World Bank

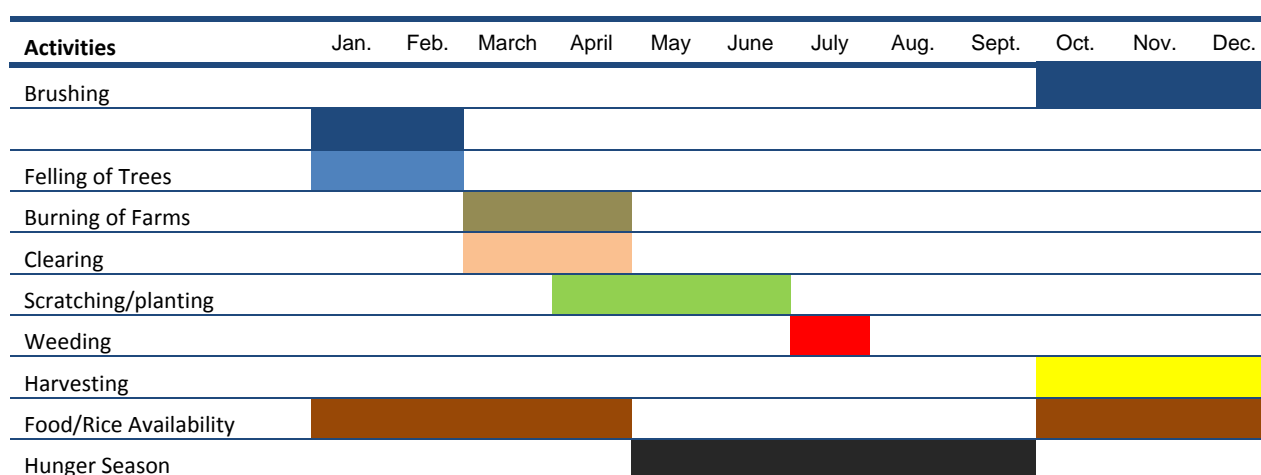
ANNEX 2: AGRICULTURAL SECTOR

Production Base and Trends

The agricultural sector produces coffee, cocoa, sugarcane, rice, cassava, palm oil, bananas, plantains, citrus, pineapple, sweet potatoes, corn, and vegetables.

Seasonality

Figure 3: Typical Agriculture Calendar for Liberia



Source: BEST Team, based on in-country research

Domestic Production and Processing of Inputs

Liberia is predominantly agrarian, with approximately 70 percent of the population dependent upon agriculture for their livelihood. The soil is predominantly of low to medium fertility. Less than 5 percent of the land is cultivated on a permanent basis. The per-capita income of the rural sector is estimated to be one eighth of the pre-war level.

The agricultural sector is divided between two very different groups. Commercial largely-export oriented producers that were devastated during the war, and small-holder traditional subsistence farmers, that produce some crops for sale in the market.

The subsistence farmers use slash-and-burn methods for their farming, and practice mixed cultivations and intercropping. They also raise goats, sheep, chickens, and ducks.

The majority of households cultivate rice upland. 63 percent fully rely on this technique, which is the traditional way of planting rice in Liberia, while 17 percent have opted for swampland (lowland), and 21 percent use a mixture of both. However, most of the latter group reported they cultivated more upland than lowland rice.

Table 20: Agricultural Constraints

	Farming HHs	HHs with land but not farming	HHs without land
Households by type	49%	18%	34%
Lack of seeds	50%	56%	46%
Lack of tools	47%	52%	54%
Lack of financial capital	29%	39%	30%
Lack of household labor	27%	37%	23%
Groundhog attack	30%	10%	7%
Bird attacks	17%	5%	5%
HH engaged in other activity	10%	12%	18%
Lack of arable land	3%	3%	34%
Returned late for planting season	2%	25%	3%

Source: WFP VAM, CFSNS, 2006

Exports & Imports

The 2007 provisional statistics show that Liberian exports amounted to \$157 million⁹⁰. The value of total exports constituted about 33 percent of GDP in 2007.⁹¹ Liberia's main exports in 2006 were rubber, timber, iron, diamonds, cocoa, and coffee. The country's main destination market (in 2006) was Germany (40 percent), followed by South Africa, Poland, the United States, and Spain. In the same year, the country's import bill totaled \$490 million⁹² (of which petroleum totaled \$125 million and rice \$65.3 million). Major imports included fuels, chemicals, machinery, transportation equipment, manufactured goods, and food products, primarily from the Republic of Korea (43 percent), Japan, Singapore, and China.

Cross-border Trade

Liberia shares borders with Guinea, Sierra Leone, and Cote d'Ivoire, which permits the flow of food and non-food commodities in both directions. Cross border trade is sensitive to the political environment, poor road conditions, limited or unreliable transportation, and arbitrary or high customs duties. Guinea is Liberia's largest regional trading partner, supplying dried peppers, sesame seed, and groundnuts. Liberia exports are primarily palm oil, kola nuts, cocoa, and coffee. The Southeastern region is dependent on Cote d'Ivoire for a number of basic commodities, especially rice.

⁹⁰ The World Bank, World Development Report 2009

⁹¹ Selected World Development Indicators, World Development Report 2009; The World Bank

⁹² The World Bank, World Development Report 2009

ANNEX 3: NATIONAL HOUSEHOLD CONSUMPTION & EXPENDITURE

Sources of Food/Local Diets/Main Staples

The CFSNS (2006) found that 11 percent of rural or semi-urban households were completely 'food insecure,' and 40 percent were considered 'highly vulnerable' to food insecurity. Only about 9 percent of the Liberian population can be considered 'food-secure'. An Action Contre La Faim (ACF) survey in Monrovia found that households spent over 52 percent of their income on food, and reduced food consumption and altered diets to cope with deteriorating purchasing power, largely by scaling back expenditures on foods with higher nutritional value.

The underlying causes of food insecurity are: 1) low agricultural production capacities due to lack of seeds and tools, and inadequate pest control, storage and processing techniques; 2) low purchasing power due to limited income-generation opportunities; 3) limited biological absorption capacities due to lack of safe drinking water and sanitation, high prevalence of disease, inadequate food preparation, and poor child feeding practices; and 4) a dysfunctional marketing system outside Monrovia and neighboring counties, due to poor road conditions, limited transportation and lack of functioning institutions.

Liberia mostly relies on the northern part for local food production; but poor infrastructure hinders the distribution of available supplies across the country. Domestic food commodities, for example, are scarce in urban markets and prices are relatively high. The country records extremely low yields of rice and relatively low yields of cassava. A survey in 2005 estimated that the yields/ha averaged 0.4 MT and 6 MT of paddy rice and cassava, respectively. The Lofa, Grand Kru, River Gee, Bomi, Gbarpolu, Nimba and Sinoe counties have the highest concentration of food insecure households, or households highly vulnerable to food insecurity.

In 2005, only 49 percent of households produced crops. In 2006, 66 percent of households were reported to have access to land; although the number of crop-producing households is expected to increase. The majority planted rice (71 percent), closely followed by cassava (67 percent). All other crops were much less frequently mentioned: vegetables (20 percent), plantains (12 percent), sweet potatoes/eddoes (10 percent), and corn (9 percent). Groundnuts and pulses were hardly reported at all, with the exception of Lofa, where 11 percent cultivated pulses in 2005.

Across all counties, the rice harvest of 2005 was mainly for domestic consumption (71 percent), with only 7 percent was sold nationally, with the second main use being preservation as rice seeds (13 percent). Cassava was the second crop which was used more for domestic consumption (57 percent). Overall, households were more likely to sell cassava in the market, than rice (35 percent versus 7 percent). In general, it is more common to sell vegetables than to consume them: 81 percent of households depend on purchases for their rice for consumption.

Liberian farmers grow crops on so-called ‘hunger farms’. The harvest of these crops – usually cassava or rice – takes place one or two months earlier than the regular harvest, to sustain households during the lean season. 28 percent of households across the country are reported to have a hunger farm, though there was substantial variation between counties. 86 percent of these households cultivated cassava on these plots, 16 percent had rice plots, and 25 percent mentioned other types of food crops, which included yams, sweet potatoes, eddoes, etc.

Rice is the main staple food in Liberia. More than two-thirds of cultivating households planted rice and cassava.⁹³

Table 21: Food Source by Item and Food Consumption Group

Food source	Food consumption group	Own production	Hunting/ fishing/ gathering	Bought using cash	Bought on credit	Gifted	Food aid	Begging	Other
Rice	Poor	11%	NA	67%	14%	5%	NA	1%	1%
Rice	Borderline	14%	NA	67%	13%	4%	NA	0%	2%
Rice	Fairly good	15%	NA	70%	10%	3%	NA	0%	1%
Rice	Good	11%	NA	75%	11%	2%	NA	0%	0%
Rice	Total	14%	NA	69%	12%	4%	NA	0%	1%
Cassava and other tubers	Poor	31%	1%	45%	5%	14%	NA	2%	2%
Cassava and other tubers	Borderline	37%	0%	43%	4%	12%	NA	1%	2%
Cassava and other tubers	Fairly good	39%	0%	42%	3%	13%	NA	1%	2%
Cassava and other tubers	Good	35%	0%	53%	3%	7%	NA	0%	1%
Cassava and other tubers	Total	37%	0%	45%	4%	12%	NA	1%	2%
Bulgur	Poor	NA	NA	79%	8%	4%	7%	1%	1%
Bulgur	Borderline	NA	NA	81%	9%	5%	3%	1%	1%
Bulgur	Fairly good	NA	NA	86%	7%	4%	1%	1%	1%
Bulgur	Good	NA	NA	87%	8%	3%	1%	1%	1%
Bulgur	Total	NA	NA	83%	8%	4%	2%	1%	1%
Bread/flour	Poor	NA	NA	93%	2%	5%	NA	0%	0%
Bread/flour	Borderline	NA	NA	97%	2%	1%	NA	0%	1%
Bread/flour	Fairly good	NA	NA	96%	1%	3%	NA	0%	0%
Bread/flour	Good	NA	NA	95%	3%	1%	NA	0%	1%
Bread/flour	Total	NA	NA	96%	2%	2%	NA	0%	1%
Fish	Poor	NA	33%	55%	7%	3%	NA	0%	1%

⁹³ FANTA - 2 June 2009, pg 15 footnote: 58: GOL, CFSNS, 2006

Food source	Food consumption group	Own production	Hunting/ fishing/ gathering	Bought using cash	Bought on credit	Gifted	Food aid	Begging	Other
Fish	Borderline	NA	30%	59%	7%	3%	NA	0%	1%
Fish	Fairly good	NA	31%	62%	4%	2%	NA	0%	1%
Fish	Good	NA	26%	67%	4%	2%	NA	0%	1%
Fish	Total	NA	30%	61%	6%	3%	NA	0%	1%
Bush meat	Poor	NA	33%	52%	4%	9%	NA	1%	0%
Bush meat	Borderline	NA	28%	55%	4%	10%	NA	1%	2%
Bush meat	Fairly good	NA	23%	62%	3%	10%	NA	1%	1%
Bush meat	Good	NA	17%	68%	5%	8%	NA	1%	1%
Bush meat	Total	NA	25%	59%	4%	9%	NA	1%	1%
Other meat	Poor	38%	3%	38%	0%	10%	NA	5%	5%
Other meat	Borderline	40%	1%	48%	2%	9%	NA	0%	1%
Other meat	Fairly good	42%	1%	45%	1%	11%	NA	0%	1%
Other meat	Good	23%	3%	64%	5%	5%	NA	0%	1%
Other meat	Total	33%	2%	53%	3%	8%	NA	0%	1%
Eggs	Poor	42%	NA	58%	0%	0%	NA	0%	0%
Eggs	Borderline	15%	NA	78%	2%	6%	NA	0%	0%
Eggs	Fairly good	15%	NA	82%	1%	3%	NA	0%	0%
Eggs	Good	10%	NA	82%	3%	4%	NA	0%	0%
Eggs	Total	13%	NA	81%	2%	4%	NA	0%	0%
Pulses/ groundnuts	Poor	10%	NA	59%	3%	18%	7%	2%	1%
Pulses/ groundnuts	Borderline	11%	NA	68%	2%	14%	2%	1%	1%
Pulses/ groundnuts	Fairly good	8%	NA	81%	2%	6%	1%	0%	1%
Pulses/ groundnuts	Good	7%	NA	85%	3%	4%	1%	1%	0%
Pulses/ groundnuts	Total	8%	NA	77%	2%	9%	2%	1%	1%
Fresh vegetables/fruits	Poor	42%	2%	28%	1%	27%	NA	0%	1%
Fresh vegetables/fruits	Borderline	45%	2%	24%	1%	27%	NA	0%	1%
Fresh vegetables/fruits	Fairly good	47%	1%	29%	0%	21%	NA	0%	1%
Fresh vegetables/fruits	Good	40%	1%	45%	1%	12%	NA	0%	1%
Fresh vegetables/fruits	Total	45%	2%	30%	1%	22%	NA	0%	1%
Oil/palm butter	Poor	31%	1%	53%	5%	6%	1%	1%	1%
Oil/palm butter	Borderline	30%	2%	55%	6%	5%	0%	1%	1%
Oil/palm butter	Fairly good	28%	0%	62%	4%	5%	0%	1%	1%

Food source	Food consumption group	Own production	Hunting/ fishing/ gathering	Bought using cash	Bought on credit	Gifted	Food aid	Begging	Other
Oil/palm butter	Good	21%	1%	69%	5%	4%	0%	0%	1%
Oil/palm butter	Total	28%	1%	59%	5%	5%	0%	1%	1%
Sugar	Poor	0%	NA	95%	3%	0%	NA	2%	0%
Sugar	Borderline	2%	NA	89%	4%	4%	NA	0%	0%
Sugar	Fairly good	3%	NA	93%	2%	2%	NA	0%	1%
Sugar	Good	0%	NA	95%	2%	1%	NA	0%	1%
Sugar	Total	1%	NA	93%	3%	2%	NA	1%	1%

Source: WFP VAM, CFSNS, 2006

Note: NA=Not Available

Sources of Income

Cash crops were produced by 28 percent of households throughout the country ranging from 47 percent in Nimba to only 8 percent in Margibi. Overall, the most common cash crops produced included: plantains (40 percent) which also serve as a food crop; cacao (32 percent), rubber (26 percent), coffee (26 percent), and sugarcane (19 percent). Cacao was most commonly grown in the interior counties with slightly higher altitudes: Grand Gedeh, River Gee, Lofa, and Gbarpolu. As expected, rubber was the most frequent cash crop produced in Margibi and Bong, which encompass not only the country's largest rubber plantations but also private farms. Coffee dominated in the central and northern counties, and households in Lofa were unique from all other households in reporting coffee as the most frequent cash crop (more than 80 percent of those households). Sugarcane is frequently reported by the cash-crop producing households in the coastal south and central counties (Maryland, Grand Kru, and Grand Bassa) as well as Nimba. Overall, Nimba is characterized by having the largest number of households and growing the largest array of cash crops. Vast areas of former plantations – particularly in the southeast - have not yet been rehabilitated. They provide enormous economic opportunities, particularly for rural households, during Liberia's transition from economic recovery to sustainable development.

Table 22: Expenditure Patterns/Budgets

Food Expenditures by Income Level	Quintiles' Food expenditures					Quintiles' non-Food expenditures				
	I.	II.	III.	IV.	V.	I.	II.	III.	IV.	V.
Bomi	24%	35%	29%	8%	4%	58%	28%	11%	2%	0%
Bong	25%	24%	16%	16%	18%	23%	22%	22%	17%	15%
Grand Bassa	12%	20%	23%	24%	20%	14%	23%	23%	23%	18%
Grand Cape Mount	1%	6%	19%	28%	46%	0%	6%	11%	25%	59%
Grand Gedeh	10%	11%	19%	29%	31%	16%	13%	15%	24%	32%
Grand Kru	52%	20%	12%	11%	5%	50%	23%	16%	9%	2%
Lofa	41%	26%	15%	11%	8%	37%	28%	17%	12%	6%

Food Expenditures by Income Level	Quintiles' Food expenditures					Quintiles' non-Food expenditures				
	I.	II.	III.	IV.	V.	I.	II.	III.	IV.	V.
Margibi	6%	10%	21%	26%	37%	11%	23%	28%	25%	13%
Maryland	16%	18%	22%	27%	17%	9%	17%	21%	24%	29%
Montserrado	5%	22%	23%	26%	24%	1%	8%	23%	31%	37%
Nimba	36%	22%	19%	15%	9%	30%	32%	19%	14%	5%
River Cess	17%	14%	22%	23%	25%	20%	25%	21%	18%	16%
Sinoe	27%	17%	23%	18%	17%	26%	15%	22%	20%	17%
River Gee	23%	27%	20%	18%	12%	28%	30%	17%	12%	13%
Gbarpolu	24%	16%	19%	16%	25%	21%	18%	16%	21%	24%
Total	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%

Source: WFP VAM, CFSNS, 2006

Table 23: Food Expenditures

	Per-capita food expenditures (LD)	Per-capita non-food expenditures (LD)	Per-capita total expenditures (LD)	Share of food expenditures in %	Share of staple food in total expenditure
Bomi	338	86	424	79%	77%
Bong	464	238	700	66%	63%
Grand Bassa	522	246	768	68%	66%
Grand Cape Mount	771	498	1269	61%	52%
Grand Gedeh	605	314	919	66%	64%
Grand Kru	270	117	387	68%	67%
Lofa	316	161	477	66%	60%
Margibi	665	226	891	74%	64%
Maryland	488	331	819	61%	59%
Montserrado	567	375	942	60%	55%
Nimba	363	155	519	68%	65%
River Cess	535	231	765	70%	67%
Sinoe	442	220	661	67%	64%
River Gee	439	209	648	68%	66%
Gbarpolu	556	300	855	65%	60%
Total	492	257	749	66%	62%

Source: WFP VAM, CFSNS, 2006

ANNEX 4: GEOGRAPHY, DEMOGRAPHY & INFRASTRUCTURE

Liberia is located on the west coast of Africa, bordered by Sierra Leone in the West, Guinea in the North, Côte d'Ivoire in the East, and the Atlantic Ocean in the South. Liberia enjoys a 579-kilometer coastline on the Atlantic Ocean, which is characterized by lagoons, mangrove swamps, and river-deposited sandbars. The sparse inland is mostly flat and forested, rising to a plateau of drier grasslands in the North and low mountains in the northeast. The country's highest point is *Mount Wuteve*, with an altitude of 1,380 meters above sea level.

The Liberian climate is tropical and humid, especially on the coast, with little change in temperature throughout the year. The mean temperature is 27°C (81°F), with temperatures rarely exceeding 36°C (97°F) or falling below 20°C (68°F). Rainfall is irregular, and the rainy season varies in intensity, beginning earlier on the coast than in the interior. The interior has hot but pleasant days, and cool nights during the dry season. Deforestation and drought in the Sahel have affected the climate, lengthening the dry season by almost a month in some areas.

Average relative humidity in the coastal area is about 82 percent during the rainy season and 78 percent in the dry, but it may drop to 50 percent or lower between December and March, when the dust-laden *harmattan* blows from the Sahara.⁹⁴ Yearly rainfall is as high as 510 centimeters (200 inches) on the coast, decreasing to about 200 centimeters (80 inches) in areas farther inland. There are distinct wet and dry seasons, most of the rainfall occurring between late April and mid-November. Liberia has an abundance of rivers. The two major rivers are the Mano and Morro rivers in the northwest, and the Cavalla in the east and southeast, which form sections of Liberia's boundaries. Other rivers are the Lofa, the St. Paul, St. John and Cestos, all of which run parallel to each other, and flow perpendicular to the coast. The Farmington River is a source of hydroelectric power. Waterfalls, rapids, rocks, and sandbanks occur frequently, inhibiting river flow, and limiting inland navigation. During the rainy season there is often severe flooding in the coastal plains.

Liberia has permanent lush and green vegetation. Many trees—such as red ironwood, camwood, whismore, teak, and mahogany—are relatively abundant, but occur with other species, preventing easy harvest. Other trees of economic value are rubber, cocoa, coffee, and the raffia palm.

Liberia's rain forest abounds with animals such as the monkey, chimpanzee, small antelope, pygmy hippopotamus, and anteater. Elephants, bush cows (short-horned buffalo), and leopards

⁹⁴ <http://www.nationsencyclopedia.com/Africa/Liberia-CLIMATE.html>

are gradually disappearing. There are many reptiles, including crocodiles and snakes. There are several unique species of bats and birds, and scorpions, lizards, and fish are numerous. These geographic conditions make Liberia a very lush and fertile country. Liberia has many swamps, and is highly suited for lowland rice and palm tree plantation. In fact, Liberia has the most appropriate conditions for palm plantation worldwide. Liberia's climate and soil is also suited for tubers such as cassava, as well as legumes and bananas.

Liberia is governed under 15 regional jurisdictions called counties. The following section describes the counties (see map on cover page).⁹⁵

Bomi: Borders Grand Cape Mount County on the west, Gbarpolu County on the north, Montserrado County on the east and the Atlantic Ocean to the south. The 2001 Liberia Agricultural Baseline Survey found that 82 percent of the county's rural households practiced agriculture. Rubber and oil palm plantations are the main cash crops, and rice, cassava and vegetables constitute the major food crops. Despite being along the Atlantic Ocean, there is negligible fishing activity.

Bong: One of the most productive counties in Liberia. It borders Gbarpolu and Lofa counties to the west, the Republic of Guinea to the north, Nimba County to the east, and Margibi and Grand Bassa counties to the south. About 88 percent of the rural households engage in agricultural activities, largely the production of cash crops such as rubber, oil palm, coffee and cocoa and food crops such as rice, cassava, plantains and vegetables.

Gbarpolu: Created as a county in 2002 and is mostly inaccessible due to lack of or poor roads. Cash crops production is low and basic food crops include rice, cassava and vegetables.

Grand Bassa: Located in the south-eastern part of the country, it hosts the port city of Buchanan, the coastal capital and the second largest city and sea port of Liberia. The southern part of the county relies on coconut farming, fishing, oil palm extraction, while most of the staple food (cassava, rice, plantain) are produced in the northern part bordering Bong, Nimba and River Cess counties.

Grand Cape Mount: The County borders Sierra Leone, with 78 percent of its households engaged in agricultural activities. Coastal fishing is a major occupation of the Kru and Fanti people living in Robertsport town and along Lake Piso. Rubber and oil palm are the main cash crops while rice and cassava are the major food crops.

Grand Gedeh: The County's capital city is Zwedru and it borders the Ivory Coast to the east. The main sources of livelihoods are cross-border trade, hunting, farming and oil palm extraction. Rice and cassava production is the dominant activity.

⁹⁵ FAO/WFP (2006), *Crop and Food Supply Assessment*

Grand Kru: A newly created county headquartered in the town of Barclayville along the coast. It is located in an area of the country that is largely cut off from the rest due to poor infrastructure, which has hindered service provision and development. It is considered one of the most disadvantaged counties in the southeastern region. Cassava production and fishing dominate economic activities, with households engaged in barter trade for the two products. Low production of cassava, fish and rice has made the county highly food insecure.

Lofa: It is the largest county in terms of land area and one of the most productive in the country. It was also one of the Counties most affected by the civil war. It registered very high agriculture production in the pre-war years, with coffee, cocoa, oil palm the leading cash crops. The protracted civil war damaged all these crops and post-war rehabilitation has been slow. In terms of food crops production, rice is the most dominant.

Margibi: Is located in Liberia's rubber production belt. 76 percent of rural households are engaged in agricultural activities, mainly rubber tapping, but food crops production is low compared to other counties.

Maryland: Situated along the coast bordering Ivory Coast, the County is considered conducive for livestock production due to its vast and rich savannah lands. Before the civil war, it was one of the leading counties in cattle production. Some NGOs are engaged in animal restocking programs. Tree crops such as cocoa, coffee, rubber and oil palm played a major role in the local economy but now in need of substantial rehabilitation. Cassava and rice production is low due to limited capacity of farmers. Fishing activity is also predominant.

Montserrado: It is the most populous County, which includes the capital city Monrovia with up to 40 percent of the Liberia's total population. It has hosted thousands of IDPs and Sierra Leonean refugees. The 2001 Agricultural Baseline Survey by the Ministry of Agriculture estimated that about 60 percent of the county's rural population is engaged in agricultural activities, mainly rubber tapping, rice, roots and tuber production. Like the rest of Liberia, production yields are very low. The Kru and Fanti people living along the coastal areas practice coaster fishing.

Nimba: The County is one of the most populated counties, with over 88 percent of its rural population engaged in agricultural activities. It is one of the most productive in the country with rice, cassava, plantain and vegetables constituting the major crops. Cash crops such as rubber, oil palm, coffee, and cocoa are major sources of income. However, production dropped considerably during the post-war years, due to limited inputs, pest infestation and poor soil fertility.

River Cess: The County is situated along the coastal belt and produces major food crops such as rice, cassava, plantain and pineapple in the north and fishing and coconut farming in the south. The north which produces the bulk of the food is inaccessible to larger towns and market centers due to bad roads. There is limited livestock keeping.

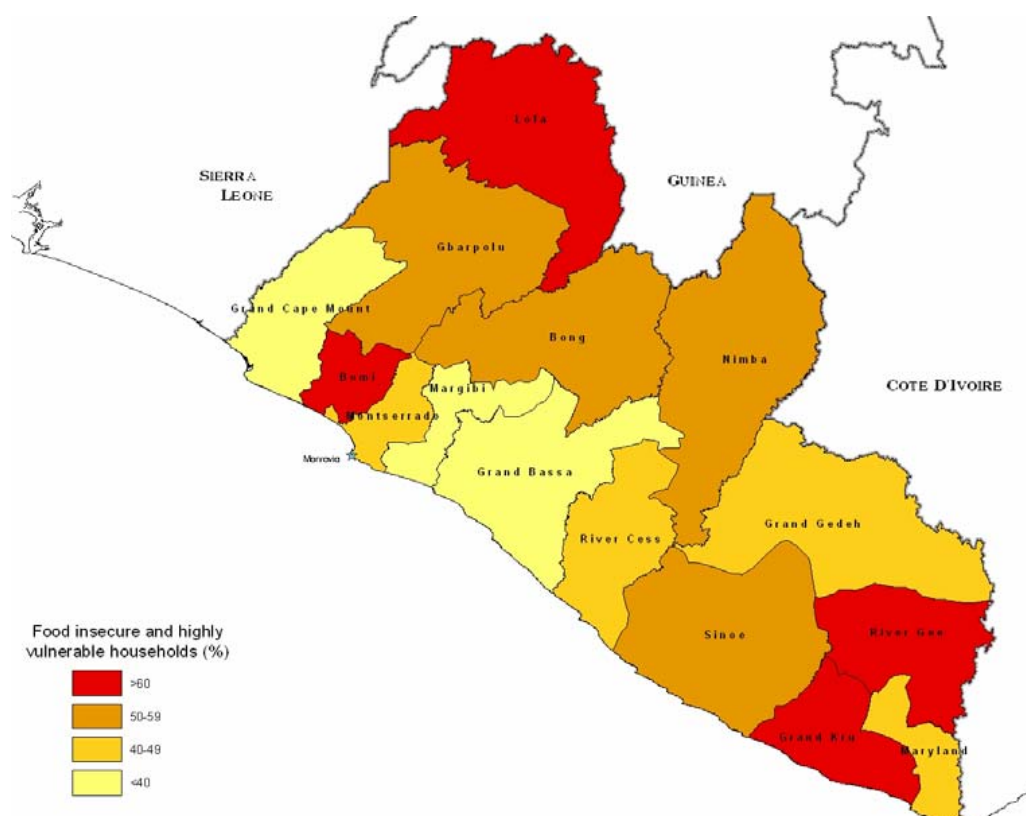
River Gee: Approximately 80 percent of the county's population is engaged in farming. Its potential for food production is considered high but requires urgent capacity building in the

supply and use of inputs and infrastructure development. Rice and cassava farming constitutes the main source of livelihood.

Sinoe: Situated along the coastal belt, with an estimated population of 120,000, its capital city is Greenville and the main sources of livelihood are fishing, gold and diamond mining. It is also home to large scale rubber and oil palm plantations and other tree crops like cocoa and coffee. The county records some of the lowest rice and cassava yields due to poor agricultural technology.

Liberia shares borders with Guinea, Sierra Leone and Cote D'Ivoire. The ethnic groups residing along these borders are also found in the neighboring countries. Immigration and customs officials recognize the importance of cross-border trade for their citizens, by frequently allowing relatively free movement of people and vehicles to the closest markets. The major immigration points for Koindu in Sierra Leone and Foya in Liberia are located after the international markets in these towns. The major immigration point in Ganta is also on the outskirts of town, after the commercial area. Although there are a number of border crossings, only a few have a functioning customs office. According to GOL revenue reports, the border crossings currently reporting the highest revenue intakes, other than the Freeport and RIA, are two on the Guinean border: Ganta, Nimba County and Yeala, Lofa. Both of these crossings currently provide reasonable road access to Monrovia. The road from Ganta to Monrovia is paved.

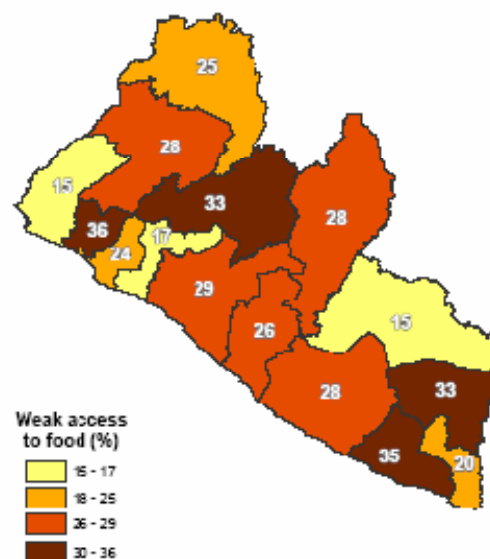
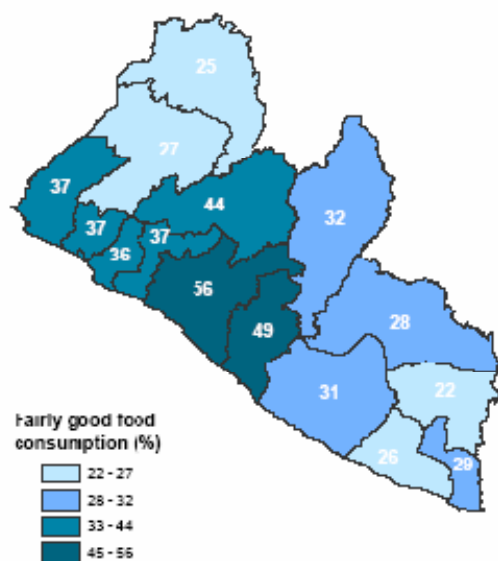
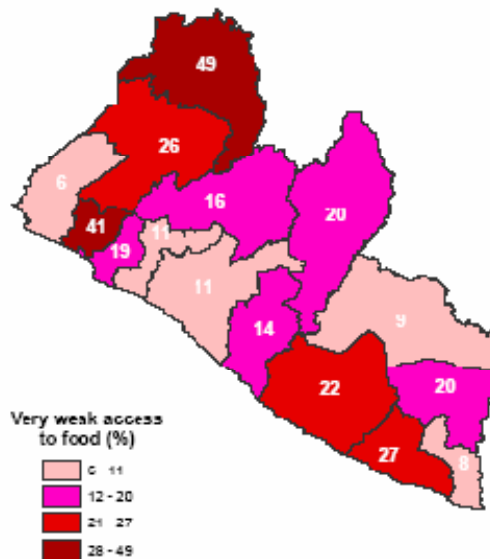
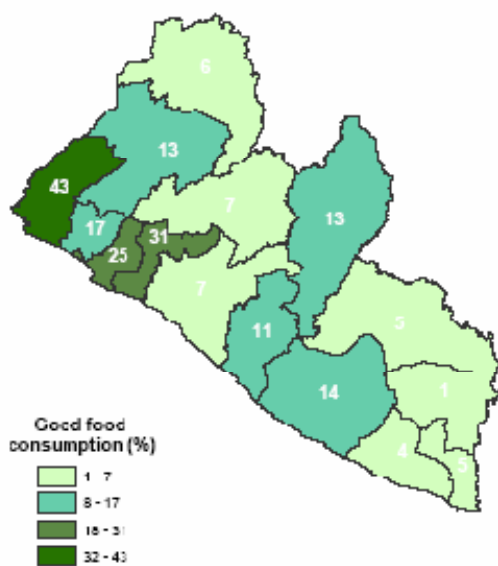
Figure 4: Geographic Distribution of Food Insecure and Highly Vulnerable Households

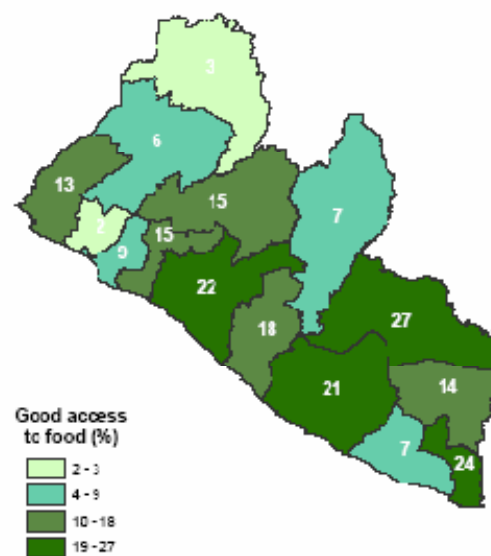
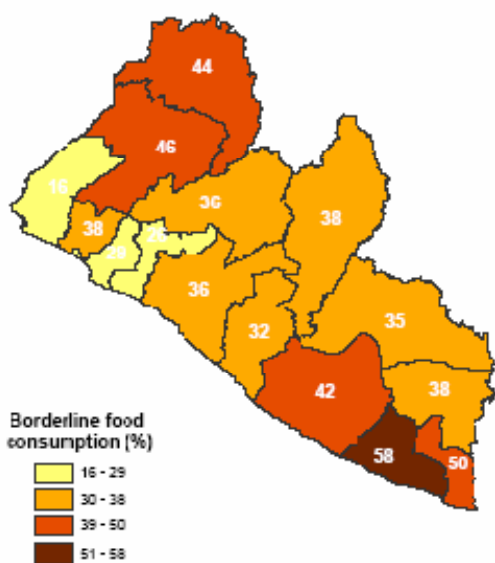
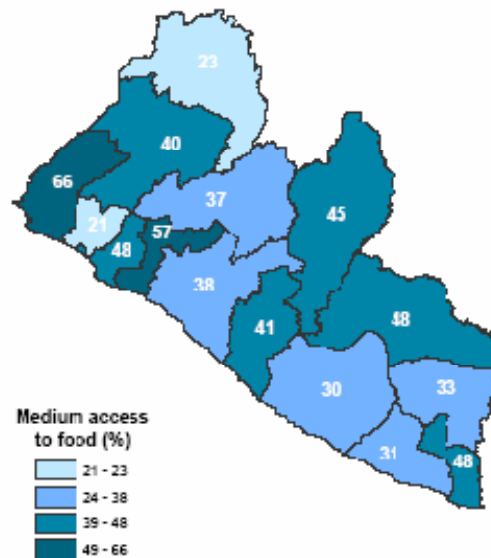
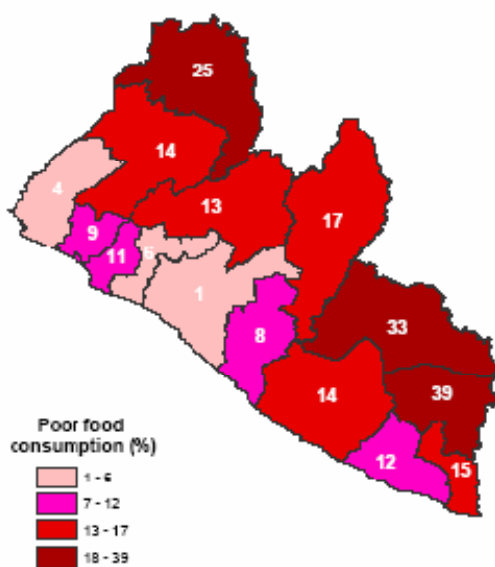


Source: WFP VAM, CFSNS, 2006

Figure 5: Geographic Distribution of Household Food Consumption and Access Groups

Source for all maps in Figure 5: WFP VAM CFSNS 2006





Population

The current population is 3.5 million, with an annual growth rate of 2.1 percent.⁹⁶

Table 24: Total Population, by Gender, 2008

	Male	Female	Total
Bomi	42,940	41,179	84,119
Bong	164,859	168,622	333,481
Grand Bassa	110,913	110,780	221,693
Grand Cape Mount	65,679	61,397	127,076
Grand Gedeh	64,994	60,264	125,258
Grand Kru	29,648	28,265	57,913
Lofa	133,611	143,252	276,863
Margibi	105,840	104,083	209,923
Maryland	70,855	65,083	135,938
Montserrado	549,733	568,508	1,118,241
Nimba	230,113	231,913	462,026
River Cess	37,224	34,285	71,509
Sinoe	54,767	47,624	102,391
River Gee	34,863	31,926	66,789
Gbarpolu	43,906	39,482	83,388
Total	1,739,945	1,736,663	3,476,608

Source: 2008 Population and Housing Census

Malnutrition Rates

The rural population faces both chronic and transitory food insecurity, and vulnerability is highest during the lean season (approximately June to October). Chronic food insecurity is concentrated in counties within the southeastern region; the interrelated casual factors of food insecurity include geographic isolation, limited market access, poor infrastructure and chronic poverty.

Water, Sanitation and Hygiene Access

Table 25: Sources of Drinking Water (Rainy Season)

	Tube well/bore well with pump	Protected dug well or spring	Unprotected well	Pond, lake, river, creek	Rain water
Bomi	33%	2%	7%	58%	0%
Bong	38%	6%	16%	36%	4%
Grand Bassa	10%	0%	2%	88%	0%

⁹⁶ Liberia's Population and Housing Census 2008

	Tube well/bore well with pump	Protected dug well or spring	Unprotected well	Pond, lake, river, creek	Rain water
Grand Cape Mount	42%	1%	9%	47%	1%
Grand Gedeh	42%	2%	7%	50%	0%
Grand Kru	16%	1%	0%	82%	0%
Lofa	28%	5%	13%	54%	0%
Margibi	21%	4%	16%	56%	3%
Maryland	65%	1%	0%	31%	3%
Montserrado	40%	7%	24%	28%	1%
Nimba	28%	5%	28%	39%	0%
River Cess	25%	1%	1%	73%	0%
Sinoe	9%	0%	0%	91%	0%
River Gee	15%	1%	3%	81%	0%
Gbarpolu	15%	1%	2%	79%	4%
Total	31%	4%	13%	51%	1%

Source: WFP VAM, CFSNS, 2006

Table 26: Sources of Drinking Water (Dry Season)

	Tube well/bore well with pump	Protected dug well or spring	Unprotected well,	Pond, lake, river, creek
Bomi	23%	1%	8%	69%
Bong	35%	6%	18%	41%
Grand Bassa	10%	0%	0%	90%
Grand Cape Mount	42%	1%	10%	47%
Grand Gedeh	40%	1%	7%	52%
Grand Kru	7%	0%	1%	93%
Lofa	21%	4%	8%	67%
Margibi	21%	5%	19%	55%
Maryland	66%	0%	1%	33%
Montserrado	41%	5%	26%	29%
Nimba	27%	6%	28%	38%
River Cess	21%	1%	1%	77%
Sinoe	6%	1%	0%	93%
River Gee	14%	1%	2%	83%
Gbarpolu	15%	0%	2%	82%
Total	28%	3%	14%	55%

Source: WFP VAM, CFSNS, 2006

ANNEX 5: FOOD INSECURITY

Livelihood Zones

General Description

Liberia relies mostly on the northern part for local food production, but poor infrastructure hinders the distribution of available supplies across the country. Domestic food commodities are scarce in urban markets, and prices are relatively high. The country records extremely low yields of rice and relatively low yields of cassava. A survey in 2005 estimated that the yields/ha averaged 0.4 MT and 6 MT of paddy rice and cassava, respectively. According to a 2006 survey, Lofa, Grand Kru, River Gee, Bomi, Gbarpolu, Nimba, and Sinoe counties had the highest concentration of food insecure households, or the households that are highly vulnerable to food insecurity.

Dominant Livelihood Strategies

Table 27: Percent Activities Contribute to Total Household Income

	% food crop production	% cash crop production	% fishing	% trapping /hunting	% contract work/casual labor	% petty trade/small-scale business	% salary from employer	% processing palm nuts/sugarcane	% selling of charcoal/firewood/pit-sawing	% skilled labor/handicraft	% rubber tapping	% other activity
Bomi	8%	2%	1%	1%	7%	9%	3%	27%	18%	5%	15%	2%
Bong	25%	6%	7%	1%	8%	18%	3%	17%	2%	1%	8%	2%
Grand Bassa	22%	10%	7%	4%	4%	11%	1%	28%	6%	3%	3%	2%
Grand Cape Mount	8%	0%	14%	9%	15%	18%	3%	15%	6%	2%	0%	8%
Grand Gedeh	22%	2%	7%	25%	9%	16%	4%	11%	1%	1%	0%	4%
Grand Kru	22%	4%	22%	8%	4%	10%	5%	15%	1%	2%	3%	6%
Lofa	10%	4%	5%	8%	19%	8%	3%	37%	1%	4%	0%	1%
Margibi	14%	1%	8%	0%	11%	11%	2%	6%	19%	2%	22%	1%
Maryland	29%	6%	7%	4%	5%	10%	5%	14%	1%	1%	13%	3%
Montserrado	14%	0%	1%	1%	11%	23%	11%	9%	14%	3%	6%	6%
Nimba	23%	15%	5%	2%	10%	16%	2%	16%	1%	3%	6%	2%
River Cess	15%	1%	6%	20%	1%	11%	3%	33%	3%	4%	1%	2%
Sinoe	35%	1%	4%	15%	2%	13%	2%	19%	3%	1%	3%	2%
River Gee	26%	3%	1%	13%	8%	16%	3%	17%	0%	2%	5%	5%
Gbarpolu	15%	3%	4%	17%	13%	10%	3%	21%	1%	2%	1%	9%
Total	18%	5%	6%	5%	10%	15%	4%	19%	6%	3%	6%	3%

Source: WFP VAM, CFSNS, 2006

Table 28: Livelihood Profiles: Contribution to Annual Income

Livelihood profile	%	Main income	%	Second income	%	Third income	%
Food crop farmers	15%	Food crop production	74%	Petty trade	6%	Fishing	4%
Palm oil seller/producer	14%	Processing palm oil	84%	Contract work	5%	Petty trade	3%
Petty traders	12%	Petty trade	81%	Food crop production	5%	Contract work	4%
Contract laborers	10%	Contract work	79%	Petty trade	6%	Food crop production	5%
Palm oil and food crop producers	8%	Processing palm oil	49%	Food crop production	26%	Cash crop production	5%
Rubber tappers	7%	Rubber tapping	75%	Petty trade	6%	Food crop production	5%
Charcoal producers	7%	Charcoal/firewood production	72%	Food crop production	8%	Petty trade	5%
Cash and food crop producers	6%	Cash crop production	62%	Food crop production	22%	Processing palm oil	5%
Hunters	5%	Hunting/trapping	73%	Food crop production	8%	Processing palm oil	8%
Employees	5%	Salary from employer	75%	Petty trade	12%	Food crop production	4%
Fisher folks	4%	Fishing	79%	Petty trade	6%	Food crop production	8%
Skilled laborers	3%	Skilled labor activity	74%	Petty trade	8%	Food crop production	7%
Others	3%	Other activity	82%	Petty trade	6%	Food crop production	2%

Source: WFP VAM, CFSNS, 2006

Seasonality

Participatory Rural Appraisals developed seasonal calendars to assess seasonal trends in supply and prices of 9 food commodities over 12 months of 2006 (January to December). It found that market prices for most food commodities fall in line with seasonal availability, which, in turn, is determined by the agricultural production cycle and physical accessibility.⁹⁷ Country rice was found to be most expensive from April to October, which corresponds with the lean season, but cheaper from November to February due to increased availability.⁹⁸ In contrast, cassava was found to be available throughout the year, with a peak supply from June to August, which coincides with the low availability of country rice. Overall, cassava was found to be less sensitive to price fluctuations compared to country rice.

⁹⁷ WFP VAM LMR 2006-2007

⁹⁸ Ibid

The Liberia Market Review (LMR) 2006-2007 assessed regional variations in the seasonal availability of the main locally produced staple foods – ‘country’ rice and cassava.⁹⁹ It found that Bomi and Grand Cape Mount showed similar patterns with cassava available through the year at medium to high levels, while country rice was available during the harvest season, from November onwards, and scarce throughout. Focus groups in Bomi reported that no country rice was available at all from June through October. In Lofa and Gbarpolu, rice was moderately to highly available from November to March. In Margibi, country rice is mostly available from January to May, but cassava shows patterns opposite those of Lofa and Gbarpolu. Grand Bassa shows a similar pattern. Cassava is more available during the lean season, between June and October. The lean season starts two months earlier in Gbarpolu, compared to Lofa (March/May). Bong and Nimba experience lean seasons between April and September/October. The supply of country rice in Montserrado is highest from February to May, following the harvest season, with a time lag due to transport from other counties. Cassava follows a very similar pattern; its availability corresponds with the dry season, when transportation from other counties becomes easier. It is also an indication that households in Montserrado depend mostly on imported rice.

The harvest season in Grand Gedeh starts in September, while the lean season is from April to August, when cassava supply is at its peak. The pattern is very similar for River Gee, where harvests start one month earlier. Cassava dominates in Sinoe and Grand Kru throughout the year. The lean season for rice lasts from October to June in Sinoe and from September to May in Grand Kru. Maryland presents a slightly different picture from the rest of the counties. Focus group discussions in Pleebo, Maryland, reported that no country rice was available throughout the year, while cassava was available but only at low to medium levels; the county is highly dependent on rice imports from Cote d’Ivoire.¹⁰⁰

The season for fishing is December to April, when the price for dried fish is the lowest. Highest prices were reported from May to October. Within a given month, the best time for fishing is during full moon. Bush meat has its peak in the rainy season. Respondents of the focus group discussions explained that this is related to the fact that the animals cannot hear the hunters moving in the damp bush. Prices are also lowest during the rainy season. Interestingly, the supply of dried beans is perceived to be “medium” throughout, while prices are higher in the rainy season, which could be related to higher transport costs. Palm oil prices are lower during the dry season, in particular from March to May, when the market is flooded with palm nuts. Prices are very high from June to October.

Market surveys for the LMR found rice in all 21 markets, with large volumes of imported rice (butter rice and “sondone”) dominating in 19 out of 21 markets.¹⁰¹ Only seven of the surveyed markets had imported parboiled rice. Domestically produced rice (“country rice”) was found in

⁹⁹ WFP VAM LMR 2006-2007

¹⁰⁰ Ibid

¹⁰¹ Ibid, p. 30

17 of markets, with smaller quantities in Lofa and Montserrado; no country rice was observed in Grand Kru, Sinoe and Maryland counties. The markets were surveyed at a time of year when country rice would generally be available. Imported rice for most counties originated in Monrovia, the entry point.¹⁰² Maryland and Grand Kru counties in the south-east depend on Cote d'Ivoire for imported rice. Most of the parboiled rice sold in Margibi and Grand Bassa is imported by the Firestone Rubber Plantation at Harbel for employees who receive a monthly allotment of imported rice as part of their compensation.¹⁰³

The food commodities sold in Liberian markets are a function of the Liberian dietary patterns and methods of food preparation. The basic Liberian diet consists of either rice, cassava, or other tubers and a "soup" or stew made from greens or palm nuts. "Pepper" or "clear water soup," most often consumed with cassava products (fufu, dumboy, or gbegbi) is made from fish and meat and highly seasoned with pepper. Palm butter, especially popular in south-eastern Liberia, is made from palm nuts. Commonly-used greens and vegetables include cassava leaf, potato greens, palaver sauce, okra, bitter balls, etc. Cassava leaf must be pounded in the mortar or ground before cooking. In rural markets, the leaf is most often sold. In urban markets, cassava leaf is often sold already ground (using a meat grinder). Greens are cooked with palm or other vegetable oil. All soups or stews tend to be heavily seasoned with fresh or dried pepper.

Table 29: Seasonality of Supply and Prices for Country Rice

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Price	3	3	3	4	4	4	4	4	4	4	3	3
Supply	2	2	2	1	1	1	1	1	1	1	2	2

Source: WFP VAM LMR 2006-2007

1=low, 2= medium, 3=high, 4=very high

Many Liberians do not consider themselves to have eaten during a day if they have not had at least one meal of rice. Cassava is the second most commonly consumed staple and is preferred in some parts of the country. Food preferences and preparation methods have been influenced by the experience of Liberians as refugees in neighboring countries or in the U.S. The differences are in the quantity (especially rice) and the quality of the stew or soup. Food commodities frequently sold in Liberian markets can be grouped into several categories:

1. Grains: locally-produced and imported rice
2. Tubers/roots: mainly locally produced
3. Pulses: mainly imported from Guinea
4. Vegetables: mainly locally produced

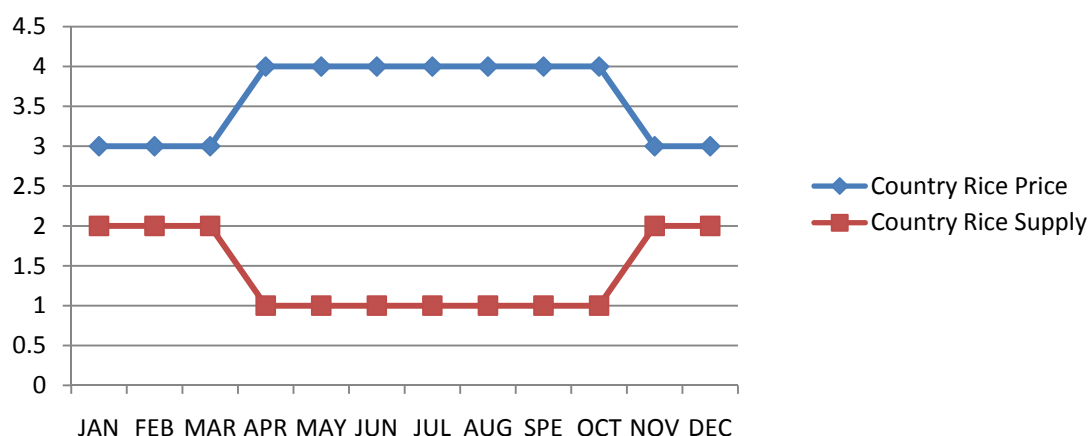
¹⁰² WFP VAM LMR 2006-2007, p. 31

¹⁰³ Ibid

5. Fruits: locally produced and imported
6. Palm oil: locally produced (“red” palm, palm kernel, coconut)
7. Other oil: Imported (vegetable, corn, etc.)
8. Pepper: fresh locally produced, dried imported from Guinea
9. Dried fish (in some markets fresh and/or frozen fish)
10. Dried bush meat (in some markets: fresh meat such as chicken, beef, pork and bush meat)
11. Canned products (e.g. milk)
12. Condiments (salt, «manpo», maggi cubes, etc.)

Four factors influence the quantity and diversity of food commodities that are sold at a local market: (i) local demand and purchasing power which is determined by population density and predominant livelihood activities, (ii) agricultural production capacities in the area where the market is located; (iii) condition of road network (main roads and feeder roads) and availability of reliable means of transport, and (iv) the level to which the produce is perishable.

Figure 6: Supply and Price of Country Rice



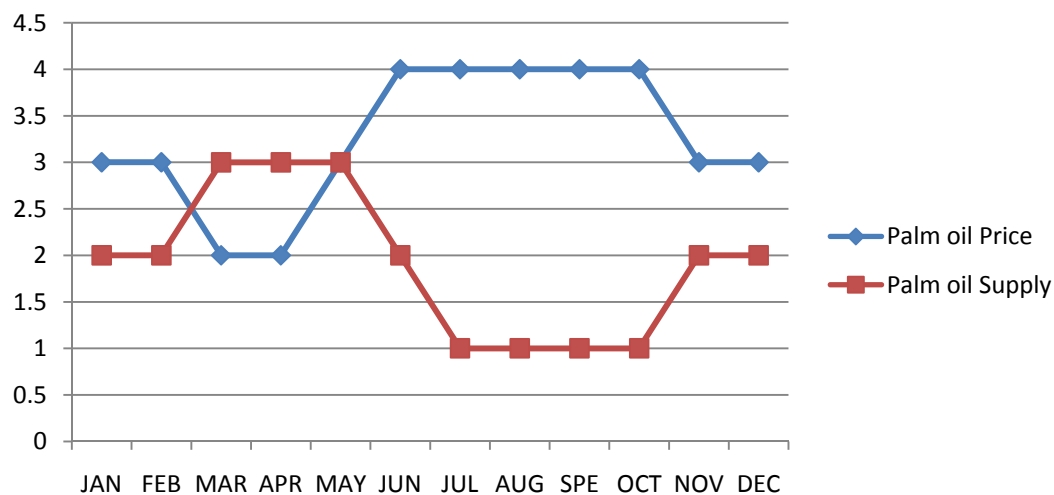
Source: WFP VAM LMR 2006-2007

Table 30: Seasonality of Supply and Prices: Palm Oil

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Price	3	3	2	2	3	4	4	4	4	4	3	3
Supply	2	2	3	3	3	2	1	1	1	1	2	2

Source: WFP VAM LMR 2006-2007

1=low, 2= medium, 3=high, 4=very high

Figure 7: Supply and Price of Palm Oil

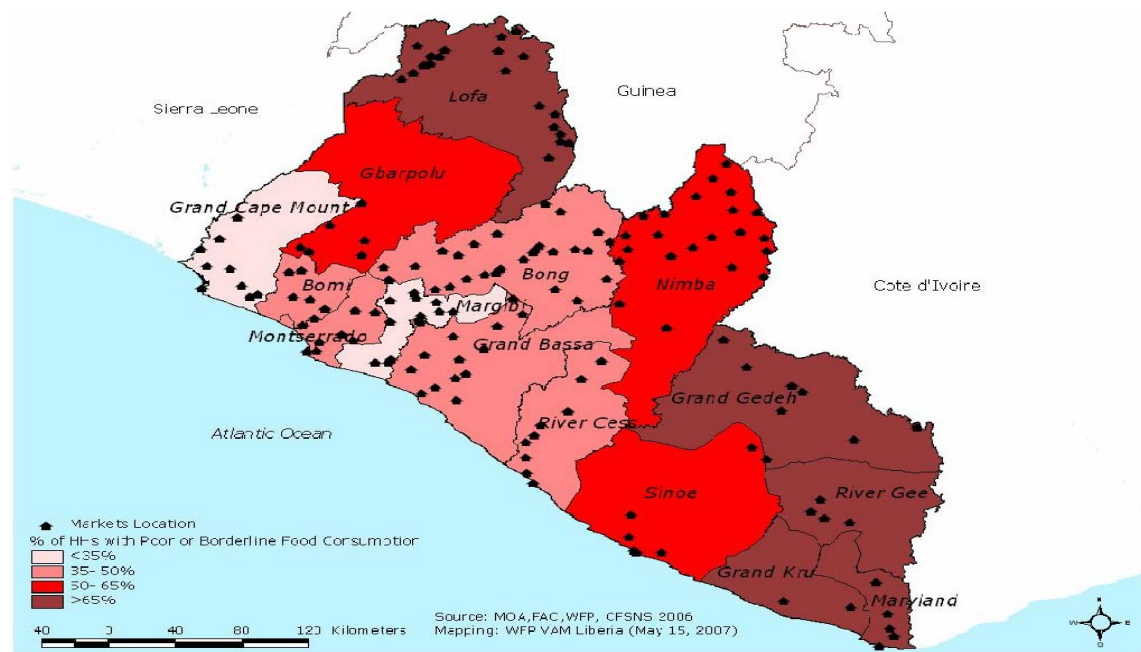
Source: WFP VAM LMR 2006-2007

Market Integration

Figure 8: Location of Markets in Monrovia

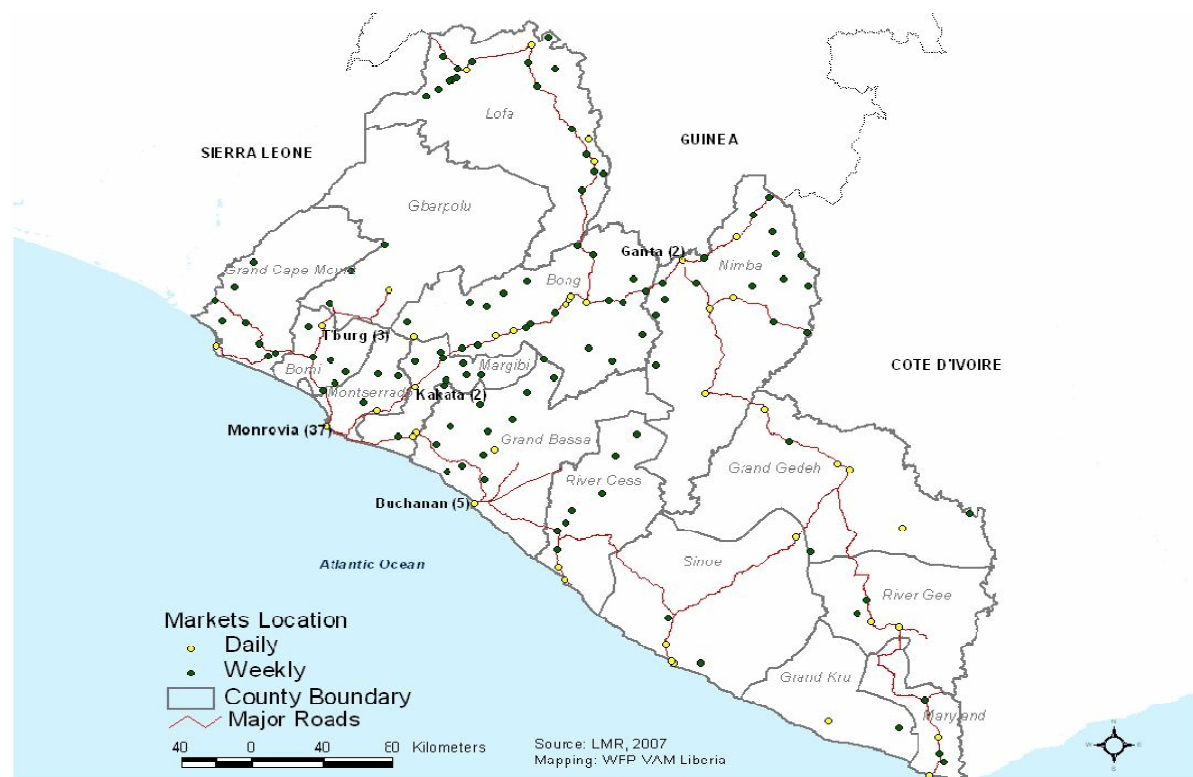
Source: WFP VAM LMR 2006-2007

Figure 9: Household Food Consumption Levels and Number of Markets by County



Source: WFP VAM LMR 2006-2007

Figure 10: Location of Markets



Source: WFP VAM LMR 2006-2007

Table 31: Availability of Commodities

	Bomi	Bong	Gbarpolu	Grand Bassa	Grand Cape Mont	Grand Gedeh	Grand Kru	Lofa	Margibi	Maryland	Montserrado	Nimba	River Gee	Sinoe
Butter rice	X	X	X	X	X	X		X	X	X	X	X	X	X
Parboiled rice		X		X		X		X	X		X	X		
Sondon rice	X	X		X	X	X	X	X	X	X	X	X	X	X
Other imported rice		X		X	X	X		X	X	X	X	X		
Country rice	X	X	X	X	X	X		X	X		X	X	X	
Bulgur wheat	X	X		X	X	X	X	X	X	X	X	X		X
Palm oil	X	X	X	X	X	X		X	X	X	X	X		X
Palm nuts	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Vegetable oil	X	X	X	X	X	X		X	X	X	X	X	X	X

Source: WFP VAM LMR 2006-2007

Figure 11: Trade Flows of Imported Rice

Source: WFP Impact of High Prices on Food Security 2008

Key Food Insecure / Vulnerable Populations

During the civil war, most farm families abandoned their farms, production declined, markets collapsed, and infrastructure was destroyed. Liberia is now dependent on imports, particularly for its staple food, rice.

According to the 2008 country-wide LFSNS, nearly 50 percent of households have inadequate access to sufficient and nutritious food, with 14 percent classified as severely food insecure, and 35 percent as highly vulnerable to food insecurity. There are also important geographical disparities and seasonal variations.

The global crisis of soaring food prices during 2008 worsened the already high levels of food insecurity in the country, and increased the risk of malnutrition for certain vulnerable groups, such as children under 5 and pregnant and lactating women. The price of rice, the nation's staple food, increased by more than 60 percent from May 2007 to December 2008. The price of rice has been relatively stable since November 2008 (the start of harvesting), but has remained well above the levels of a year ago, and unlike the previous three years, an upward movement in the rice price has already started in the rural areas beginning March 2009.

Table 32: Food Security Group

	Food Insecure	Highly Vulnerable	Moderately Vulnerable	Food Secure
Bomi	13%	54%	31%	3%
Bong	8%	42%	42%	8%
Grand Bassa	2%	35%	57%	6%
Grand Cape Mount	2%	16%	57%	26%
Grand Gedeh	10%	39%	44%	7%
Grand Kru	14%	58%	26%	2%
Lofa	28%	48%	21%	3%
Margibi	5%	28%	49%	19%
Maryland	6%	41%	44%	9%
Montserrado	10%	35%	43%	13%
Nimba	9%	47%	41%	3%
River Cess	6%	35%	50%	9%
Sinoe	8%	44%	39%	10%
River Gee	20%	52%	26%	1%
Gbarpolu	18%	42%	34%	7%
Total	11%	40%	41%	9%

Source: WFP VAM, CFSNS 2006

Table 33: Food Access Group

	Very weak access	Weak access	Medium access	Good access
Bomi	41%	36%	21%	2%
Bong	16%	33%	37%	15%
Grand Bassa	11%	29%	38%	22%
Grand Cape Mount	6%	15%	66%	13%
Grand Gedeh	9%	15%	48%	27%
Grand Kru	27%	35%	31%	7%

	Very weak access	Weak access	Medium access	Good access
Lofa	49%	25%	23%	3%
Margibi	11%	17%	57%	15%
Maryland	8%	20%	48%	24%
Montserrado	19%	24%	48%	9%
Nimba	20%	28%	45%	7%
River Cess	14%	26%	41%	18%
Sinoe	22%	28%	30%	21%
River Gee	20%	33%	33%	14%
Gbarpolu	26%	28%	40%	6%
Total	21%	26%	41%	12%

Source: WFP VAM, CFSNS, 2006

Table 34: Food Assistance During the Past 6 Months

	% of Households that have received food assistance	Food for education	Food for community projects	Food for mothers and children	Food for returning households	Other type of food assistance
Bomi	31%	31%	1%	0%	0%	0%
Bong	50%	45%	7%	2%	1%	0%
Grand Bassa	18%	17%	0%	0%	0%	0%
Grand Cape Mount	27%	25%	1%	1%	0%	0%
Grand Gedeh	45%	41%	2%	1%	1%	1%
Grand Kru	2%	0%	1%	1%	0%	0%
Lofa	71%	32%	2%	0%	52%	5%
Margibi	12%	11%	0%	0%	1%	0%
Maryland	55%	54%	0%	1%	1%	0%
Montserrado	25%	21%	3%	1%	0%	1%
Nimba	43%	38%	3%	2%	0%	1%
River Cess	23%	21%	0%	0%	0%	2%
Sinoe	26%	23%	1%	2%	0%	0%
River Gee	39%	35%	7%	0%	0%	0%
Gbarpolu	21%	4%	4%	1%	14%	1%
Total	36%	29%	2%	1%	7%	1%

Source: WFP VAM, CFSNS, 2006

*Typical Hazards/External Shocks***Table 35: Coping Strategies Used by Type of Shock**

	Animal pests	Illness/accident	Death non-working HH member	Death working HH member	Loss of employment/income	Damage of house	Heavy/early rain	Plant disease	Theft	Sudden price fluctuations	Conflict/violence
Reduced number of meals per day	36%	16%	9%	22%	15%	14%	18%	30%	15%	16%	25%
Reduced proportion of meals	35%	12%	8%	13%	18%	8%	13%	26%	12%	29%	7%
Rely on less preferred food	30%	18%	21%	15%	14%	9%	36%	20%	23%	57%	15%
Purchased food on credit/borrowed food	24%	22%	16%	14%	16%	5%	21%	21%	23%	17%	8%
Helped by relatives/friends	10%	21%	34%	38%	10%	41%	13%	11%	14%	25%	42%
Eating wild foods	5%	2%	1%	2%	0%	0%	6%	2%	3%	4%	2%
Casual/contract work	5%	10%	7%	7%	17%	9%	3%	4%	13%	6%	7%
Consumed seed stock	4%	2%	1%	4%	2%	1%	6%	12%	0%	0%	1%
Increase petty trade	3%	4%	4%	5%	13%	5%	3%	1%	2%	1%	12%
Borrowed money	3%	17%	16%	7%	9%	6%	1%	6%	12%	0%	17%
Spent savings	2%	18%	20%	14%	1%	13%	4%	4%	9%	0%	11%
Long-term migration for work	1%	1%	1%	3%	0%	2%	2%	1%	0%	4%	4%
Reduced expenditure on health and education	1%	1%	0%	1%	6%	5%	0%	3%	0%	0%	3%
Worked for food only	1%	2%	1%	2%	4%	5%	3%	3%	2%	3%	5%
Temporary migration for work	1%	1%	0%	0%	8%	2%	1%	2%	0%	1%	0%
Begging	1%	4%	2%	1%	8%	3%	2%	1%	4%	3%	1%
Sold livestock	1%	2%	5%	2%	0%	3%	1%	0%	6%	0%	3%
Send children to live with relatives	0%	1%	2%	5%	2%	9%	1%	0%	3%	0%	0%
Sold household belongings	0%	1%	2%	2%	2%	0%	0%	0%	1%	0%	3%
Other	2%	5%	4%	3%	3%	13%	6%	1%	3%	0%	6%
There was no need to do anything	3%	2%	5%	0%	0%	2%	4%	4%	3%	4%	3%
We were not able to do anything	3%	4%	11%	3%	3%	6%	3%	5%	9%	2%	0%

Source: WFP VAM, CFSNS, 2006

ANNEX 6: LIST OF CONTACTS

Table 36: List of Contacts by Meeting date

Name	Organization	Meeting Date	Purpose/ Information Expected	Address	City	Phone 1	E-mail
McDonald Homer	USAID	29-Jun-09	Briefing		Monrovia	231 77 708-551	
Hoe-Hoover Gbadyu	USAID		Briefing		Monrovia	231 77 085-852	
Rice Scott	USAID		Briefing		Monrovia	077 712-0804	
Ryan Charriere	Samaritan's Purse	29-Jun-09	Acquire information on Food for Peace program in their organization	LIAP Program Manager ELWA Compound, Paynesville,	Monrovia	6302433	rcharriere@samaritan.org
Isaac D. Smith	Samaritan's Purse	29-Jun-09	Acquire information on Food for Peace program in their organization	Agriculture - LIAP, Program Manager, ELWA Compound, Paynesville	Monrovia		
Lawrence Morris	Africare	29-Jun-09	Acquire information on Food for Peace program in their organization	Deputy Country Director, 98 Sekou Toure Avenue	Monrovia	6318306	slmorris50@yahoo.com
Jasper Van de Reep	CRS	30-Jun-09	Acquire information on Food for Peace program in their organization	Head of Program, 19 Street, Sinkor	Monrovia	6384876	jvandereep@lr.waro.crs.org
James Quarshie	CRS	30-Jun-09	Acquire information on Food for Peace program in their organization	LIAP Coordinator, 19 Street, Sinkor	Monrovia	6986990	jquarshie@lr.waro.crs.org
Todd Flower	Mercy Corps	30-Jun-09	Acquire information on the Country program	Deputy Country Director, -12 Street, Paynes Avenue	Monrovia	6498064	tflower@lr.mercycorps.org
Ahed Elie Haddad	Bridgeway Corp.	1-Jul-09	Acquire trade information	General manager	Monrovia	6510333	bridgeway@haddadgroup_intl.com
Samuel Mitchell	Liberian Business Assoc.	1-Jul-09	Gather information on the Liberia Business Association	President, 24 Street, Sinkor	Monrovia	6514708	
Taban Lokonga	WFP	1-Jul-09	Acquire information on WFP program in Liberia	Deputy Country Director, Sekou Toure Avenue, Mamba Point	Monrovia	5530623	taban.lokonga@wfp.org

Name	Organization	Meeting Date	Purpose/ Information Expected	Address	City	Phone 1	E-mail
Amos Ballayan	WFP	1-Jul-09	Acquire information on WFP program in Liberia	National Program Officer, Sekou Toure Avenue, Mamba Point	Monrovia	6521795	amos.ballayan@wfp.org
Emmanuel Horton	Freeport of Monrovia	1-Jul-09	Acquire information on the Freeport of Monrovia	Port Manager Free Port of Monrovia, Buahrod Island	Monrovia	6521662	hortonemmanuel@yahoo.com
James Logan	Min. Ag. Dept. Planning	1-Jul-09	Acquire information on the Agriculture Sector and government Agriculture policy	Deputy Minister Planning, 19 Street, Sinkor	Monrovia	6518830	jblogan02@yahoo.com
Ibrahim Fouani	Fouani Brothers Corp.	2-Jul-09	Acquire trade information	U.N Drive, Mamba Point	Monrovia	5660077	monrovia@fouani.com
Anwar Ezedine	UCI Inc.	2-Jul-09	Acquire trade information	CEO	Monrovia	5448245	united_commodities@yahoo.com
Natalie Barnard	Visions in Action	2-Jul-09	Acquire information on Country program	Deputy Country Director	Monrovia	6445829	nbarnard@visionsinaction.org
Frederick Norkeh	Min of Commerce	3-Jul-09	Acquire information on trade and policy on trade	Deputy Ministry Commerce & Industry, Ashmun/ Gurley Street	Monrovia	6933229	fnorkeh@yahoo.com
Omoru Barry	Fouta Corp.	3-Jul-09	Acquire information on trade	Manager, Vai town, Bushrod Island	Monrovia	6511394	
Alfred G. Kalaghe	Africare	3-Jul-09	Acquire information on Food for Peace program in their organization	LIAP Project Coordinator, 98 Sekou Toure Avenue	Monrovia	77297674	alfred.kalaghe@yahoo.co.uk
Lusu Sloan	Liberia Marketing Association Inc.	6-Jul-09	Acquire information on the Liberia market	President, Rally Time, Market, UN Drive	Monrovia	6574844	lusuksloan2009@yahoo.com
Otis K. Moore	CRS Field Office (Salayea)	7-Jul-09	Acquire information on food for work project at the field level	Infrastructure Field Technician, Salayea town, Salayea District, Lofa County	Salayea Town	77917281	
William Paye	CRS Field Office (Salayea)	7-Jul-09	Acquire information on food for work project at the field level	Agric Field Officer, Salayea town, Salayea District, Lofa County	Salayea Town	6439958	
Sam S. Jones	Implementing partner(KDRO) Salayea district	7-Jul-09	Acquire information on food for work project at the field level	Infrastructure Project Officer, Salayea town, Salayea	Salayea Town	6535712	

Name	Organization	Meeting Date	Purpose/ Information Expected	Address	City	Phone 1	E-mail
				District, Lofa County			
James S. Dahn	Implementing partner(KDRO) Salayea District	7-Jul-09	Acquire information on food for work project at the field level	Agric Field Officer, Salayea town, Salayea District, Lofa County	Salayea Town	6720959	
Lofa County							
	Visited Salayea town's market, Salayea district	7-Jul-09	Acquire information on commodities and prices	Salayea District	Salayea Town		
	Visited CRS field office in Salayea town, Salayea District	7-Jul-09	Acquire information as to how food for work program is been carried out in the field	Salayea District	Salayea Town		
	Visited Tinsu town, CRS project area, Salayea District	7-Jul-09	See some of the food for work project	Tinsu town, Salayea District	Tinsu town		
	Travel to Zorzor and spend the night in the Zorzor District	7-Jul-09	Spent the night	Zorzor Town, Zorzor District	Zorzor town		
	Visited Succrumu town, Salayea District	8-Jul-09	Acquire information on commodities and prices	Succrumu Town, Salayea District	Succrumu town		
Ralph Woods	Africare Field Office (Ganta)	8-Jul-09	Acquire information on food for work project at the field level	Field Program Officer, Ganta, Nimba County	Ganta Town	6833014	ralphwoodsandson@yahoo.com
Adolphus Sonkarlay	Africare Field Office (Ganta)	8-Jul-09	Acquire information on food for work project at the field level	Infrastructure Manager, Ganta, Nimba County	Ganta Town	6458853	adolphsonkarley@yahoo.com
Nimba County		8-Jul-09					
	Visited Africare Field Office in Ganta Town	8-Jul-09	Acquire information as to how food for work program is been carried out in the field	Ganta, Nimba County	Ganta Town		
	Visited the Refugee in Saclapea town	8-Jul-09	See some of the food for work project	Saclapea town, Nimba	Saclapea town		
	Visited Guehkpanlah town in Nimba	8-Jul-09	See some of the food for work project	Guehkpanlah town, Nimba	Guehkpanlah town		
	Visited Ganta Market	9-Jul-09	Acquire information on commodities and	Ganta, Nimba County	Ganta Town		

Name	Organization	Meeting Date	Purpose/ Information Expected	Address	City	Phone 1	E-mail
			prices				
John Clark	CRS Field Office (Phebe)	9-Jul-09	Acquire information on food for work project at the field level	Field Officer Manager, Phebe, Suakoko District, bong County	Phebe Hospital Compound	6550180	jclark@lr.waro.crs.org
Alphanso Henries	CRS Field Office (Phebe)	9-Jul-09	Acquire information on food for work project at the field level	Field Technician, Phebe, Suakoko District, bong County	Phebe Hospital Compound		
Bong County							
	Visited CRS Field Office in Phebe, Suakoko District	9-Jul-09	Acquire information as to how food for work program is been carried out in the field	Phebe Hospital Compound, Suakoko District, Bong County	Phebe Hospital Compound		
	Visited Lepolu-TA (Town) one of the program area in Suakoko District	9-Jul-09	See some of the food for work project	Lepolu-TA, Suakoko District, Bong County	Lepolu-TA		
	Look at Project in James Town, Suakoko District	9-Jul-09	See some of the food for work project	James town, Suakoko District, Bong County	James town		
	Visited Suakoko Market, Suakoko District		Acquire information on commodities and prices	Suakoko town, Suakoko District, Bong County	Suakoko town		
Suliman V. Kamara	ACDI/VOCA	13-Jul-09	Acquire information on their country program	Deputy Chief of Party - LIFE, Corner of Sekou Toure Ave. & Old CID Road	Monrovia	77936134	skamara@acdivoca-lib.org
Isaac W.G. Seward, I	ACDI/VOCA	13-Jul-09	Acquire information on their country program	Crop Diversification Specialist - LIFE, Corner of Sekou Toure Ave. & Old CID Road	Monrovia	77979985	iseward@acdivoca.org
J. Boima Barclay, Jr.	CRS	13-Jul-09	Acquire information on the Peace for food monetization program	Head of Administration, CRS Liberian program, corner of Tubman Blvd & 19 Street, Sinkor	Monrovia	6513640	jbbarcly@lr.waro.crs.org

ANNEX 7: DETERMINING IMPACT OF A DISTRIBUTION PROGRAM

The “Bellmon Amendment” requires assurance that a proposed food aid distribution program would not result in a substantial disincentive to or interference with domestic production or marketing. The extent to which distributed food aid has the potential to result in disincentive to local production and markets rests fundamentally on whether or not proposed food aid will represent “additional consumption” for beneficiary households, i.e., food consumption which would not have occurred in the absence of the food aid distribution program.

Why Would Food Aid Introduce a Substantial Disincentive to Local Production and Markets?

Though food aid beneficiaries are expected to consume the food provided, households may respond to the receipt of food aid in a number of ways depending on prices, local diet preferences, perceived needs for non-food goods and access to local markets. A beneficiary household may:

- Consume the food aid without reducing its regular market purchases or small-scale production to compensate for a food deficit in the normal diet caused by insufficient purchasing power, in which case the food aid represents additional consumption;
- Use a portion or all the food aid to displace market purchases that otherwise would have been made;
- Use a portion or all the food aid to substitute for the home consumption of own production and sell the released production in the market; or
- Consume some portion (or none of) the food aid and sell the other portion (or all) on the market, and use the income generated from that sale to consume other food and non-food goods.

Effective targeting of food-deficit households will avoid substantial disruption of local production and markets caused by providing food aid to households who would reduce market purchases and/or household production of staples after receiving food aid.

In the case of a distribution intervention such as PM2A, which has a very specific goal of preventing early childhood malnutrition, and therefore targets pregnant women, lactating mothers and children under two years old, ‘effective targeting’ from a Bellmon perspective would involve initial geographic targeting based on household food deficits, followed by targeting households based on PM2A activity eligibility (i.e. all children 6-23 months and all pregnant/lactating women).

How Can We Determine Whether A Specific Proposed Food Aid Distribution Program Would Introduce a Substantial Disincentive?

The key to determining whether or not food aid would result in a substantial disincentive is to assess whether or not food aid would represent additional consumption. Ideally, one would conduct household surveys to determine whether or not a household would consume the food aid without changing their production and purchasing behavior, which would indicate whether or not food aid would represent additional consumption for the household. However, because household surveys are expensive and time-consuming, proxy indicators of ‘additionality’ can be used to assess the potential for leakage. This is the approach taken in the present analysis.

Among the other possible proxy indicators of additionality are an estimated nutrition gap, food consumption score (or some other measure of actual consumption), sources and levels of income, malnutrition rates and other food insecurity classifications (e.g., IPC), or some combination of these indicators.

Nutrition or Food Gap

A nutrition or food gap estimate provides a measure of the difference between available food (proxied by domestic food production) and the amount of food needed to support a specific per capita daily nutritional standard (generally 2100 kcal per person per day, although FAO estimates have been revised and are now country-specific). If estimated on a more localized level (i.e., at the level closer to the communities in which a cooperating sponsor would implement a distributed food aid program), a nutrition or food gap can provide a very useful measure of that volume of food which is not currently supplied by local production and/or markets, and which would represent an appropriate volume under a proposed Title II non-emergency food aid *distribution* program to assure minimal to no disincentive effect. In order to estimate a sub-national food or nutrition gap, it is necessary to collect data on population, production and trade flows within relevant catchment areas. Collection of trade flow data at a sub-national level is an extremely time-consuming and expensive undertaking and outside the present BEST scope of work. For the purposes of the distribution analysis, one or more proxy indicators of ‘additionality’ are used to characterize the *relative* food or nutrition gap at the sub-national level.

One source of estimated food deficits is FAO’s new “depth of hunger” estimates, which provide national averages for the estimated food deficit of undernourished population in countries across the globe. According to the most recent estimates for Liberia (2003-2005), the estimated food deficit for the undernourished population of Liberia is 350 kcal per person per day based on a Minimum Daily Energy Requirement of 1730 kcal per person per day. These figures provide a useful national benchmark which can be used prior to conducting formative research in proposed target communities to determine in more precise detail the average household deficits of beneficiary households. While this report makes use of these figures to develop an illustrative household ration under PM2A, the analysis nevertheless maintains the use of proxy indicators of ‘additionality’ to characterize the *relative* food or nutrition gap at the sub-national level in order to provide initial geographic targeting guidance.

Prevalence of Malnutrition in Children

While analysis of livelihood strategies may allow food insecurity to be assessed on the basis of the availability of and access to food, the analysis can ignore other effects including the degree to which food is effectively utilized. The relation between income and food security is context- and location-specific, with livelihood strategies as intervening variables. Such factors as disease, food hygiene, social customs and food storage and preparation practices can all influence the extent to which available food is effectively utilized and will contribute to the ultimate level of nutrition. Where wealth and nutrition outcomes are strongly and positively correlated, improving food access will help to improve nutritional outcomes. Conversely, where wealth status and nutritional status are only weakly correlated, increasing access alone will very likely be an insufficient intervention to reversing malnutrition. Where intra-household resource allocation, poor feeding practices, or disease burdens are a significant underlying cause of malnutrition, distributed food aid will be more effectively used, as an incentive to attend nutrition and health training.

The direct determinants of child malnutrition (breastfeeding, complementary food, disease incidence and access and utilization of healthcare) may be more important factors in determining the prevalence of child malnutrition than household food security.

ANNEX 8: POLICY MATRIX

Table 37: Policy Matrix by Subject Area

AREA	POLICY	PRACTICE	IMPLICATIONS
TRADE & MARKETING POLICIES			
Pricing : Farm gate	Farm gate prices are determined by supply & demand	Private traders sell and buy local production at market prices	Import trade and prices are government controlled.
Pricing : Retail	Government Price fixing for import commodities especially rice, cement & petroleum	Retail trade and prices are government controlled	There is a free market for most good but not for rice, cement, & petroleum
Import/Export Participation	Restrictions on imports price fixing of rice, cement & petroleum.	Government controls import of rice cement and petroleum but not the export trade	Both import and export trade is growing
Import/Export Duties	Reduction in duty levels. Presently rice is duty free and cement and petroleum have their duty reduced	Maximum duty level is: Rice Duty Free Oil 7.5 – 10% Wheat Flour 5 – 11% Wheat Grain 5 – 11%	Under-invoicing is still common
Domestic Marketing	Liberalized	Liberalized	Domestic market structure is developing
Food Reserves	No strategic food reserve	No strategic food reserve	Liberia depends upon international trade for national food security
Futures	No policy	Trade in futures does not exist	in Liberia Market not yet sufficiently mature to use futures
GMO	GMO commodities imported as food aid	GMO commodities imported as food aid	No implication
TRANSPORT			
Transport	Liberalized market	Liberalized Market	Liberia is able to take advantage of regional capacity
Transit Fee	To be reduced	Costs are prohibitive	Value of exports reduced, cost of imports increased
INPUT POLICIES			
Distribution	Liberalized	Liberalized but little demand	Fertilizer or other inputs available but not widely used. Not at affordable cost and lack of knowledge
Pricing government determined	Not Liberalized	Fertilizer sold at market prices.	Supply and demand are limited by the purchasing

AREA	POLICY	PRACTICE	IMPLICATIONS
			power of the buyers
MACRO POLICIES			
Foreign exchange	Open exchange at free market rates	Foreign currencies are available in all the foreign exchange bureau	Access to foreign exchange is limited by the financial capacity of the traders
Foreign exchange facilities	All the banks trade foreign exchange	Exchange rate is the same in foreign exchange bureau and in the commercial banks	Demand for foreign exchange is determined by government import licenses
Investment	Policy of encouraging FDI and domestic investment	FDI limited by bad business environment.	Low levels and even negative levels of FDI
Credit	Credit systems are liberalized	Trade credit is available but other credit is too expensive	Banking credit is limited to trade and short term finance
Interest Rates	Fixed by government	Government-interest rates are very high	Commercial credit is very expensive and hard to obtain
STRATEGIC FRAMEWORK			
Safety Net Programs	GOB and donors are developing a Safety Net Programmed to protect the chronically impoverished	Safety Net overburdened by number of beneficiaries and hampered by corruption	Some progress has been made toward developing sustainable household food security
Longer-term Food/ Agricultural Sector Recovery Strategy	Agriculture policy of import substitution and self-sufficiency	Agricultural investment scarcely able to meet local demand, let alone stimulate further growth	Inadequate rural investment restricts level of output leading to persistent national food insecurity

ANNEX 9: RATION COST CALCULATIONS

The assumptions made to calculate monthly PM2A ration costs are outlined below. These scenarios are meant to be illustrative only of the general differences in commodity volumes and potential beneficiary coverage since the ration size, composition (and delivery frequency of household rations) that might be proposed for any upcoming PM2A is unknown at this time.

HAITI PILOT (for reference):

Ration size and composition as used in preventive interventions in Haiti trial:

- Individual mother ration, individual child ration and household ration provided on year-round basis to all households within catchment area
- 29 kilograms per month per beneficiary household composed of CSB, WSB, pulses and oil

INDIVIDUAL RATINGS:

- Ration size and composition based generally on ration used in preventive interventions in Haiti trial, but scaled down partially to reflect maximum physiological capacity of children under 23 months of age
- Mother's ration of 6 kg of CSB per month provided for 12 months (assuming detection of pregnancy in 4th month of gestation through exclusive breastfeeding period of infant's first 6 months of life)
- Child's ration of 3 kg of CSB per month provided for 18 months (between 6 – 24 months)
- One child 6-23 months of age or one pregnant or lactating mother per household
- July and August 2009 Commodity Calculator food and freight costs

HOUSEHOLD RATINGS:

According to FAO "depth of hunger" estimates for Liberia for 2003-2005, the estimated food deficit for the undernourished population is 350 kcal per person per day based on a Minimum Daily Energy Requirement of 1730 kcal per person per day. For purposes of ration cost calculations, the household ration assumed in this analysis is designed to meet 83% of the estimated household deficit of the average undernourished population, and 17% of the total household monthly caloric requirements.

- 13 kilograms per month per beneficiary household, composed of 10 kg bulgur, 2 kg of lentils and 1 kg of vegetable oil
- For calculations involving distribution limited to lean season, a sixth-month lean season is assumed (May through October)
- One child 6-23 months of age or one pregnant or lactating mother per household
- July and August 2009 Commodity Calculator food and freight costs

While specific commodities were assumed for purposes of this illustration, please consult with Food For Peace to determine if a specific commodity, particularly a specific pulse, is available in sufficient quantities to fulfill program needs.

ANNEX 10: DETAILED IPP CALCULATIONS FOR RICE

Date	FOB Commodity Price	Ocean freight	Insurance	CIF Monrovia	Estimated IPP	Prices Achieved	Achieved Price as % of IPP
	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	
	USD	USD	USD	USD	USD	USD	
Jan-06	350.20	32.34	4.23	386.77	386.77		
Feb-06	365.03	23.52	4.41	392.96	392.96		
Mar-06	374.15	23.13	4.52	401.80	401.80		
Apr-06	374.15	26.71	4.52	405.38	405.38		
May-06	374.15	27.44	4.52	406.11	406.11		
Jun-06	374.15	29.40	4.52	408.07	408.07		
Jul-06	374.15	34.06	4.52	412.73	412.73		
Aug-06	392.40	36.75	4.74	433.89	433.89		
Sep-06	403.36	46.84	4.87	455.07	455.07		
Oct-06	406.09	51.70	4.91	462.69	462.69		
Nov-06	406.09	51.08	4.91	462.08	462.08		
Dec-06	406.09	50.96	4.91	461.96	461.96		
Jan-07	406.09	54.15	4.91	465.14	465.14	360.00	77%
Feb-07	406.09	53.41	4.91	464.41	464.41		
Mar-07	406.09	51.35	4.91	462.35	462.35		
Apr-07	396.97	52.68	4.80	454.44	454.44		
May-07	390.12	57.09	4.71	451.92	451.92		
Jun-07	389.67	63.70	4.71	458.07	458.07		
Jul-07	392.40	57.09	4.74	454.23	454.23		
Aug-07	392.40	67.42	4.74	464.57	464.57		
Sep-07	399.71	93.84	4.83	498.37	498.37		
Oct-07	423.20	109.52	5.11	537.83	537.83		
Nov-07	450.58	103.93	5.44	559.95	559.95		
Dec-07	476.82	92.49	5.76	575.06	575.06		
Jan-08	498.49	88.20	6.02	592.71	592.71		
Feb-08	523.59	90.16	6.32	620.07	620.07		
Mar-08	574.92	97.02	6.94	678.88	678.88		
Apr-08	692.41	92.86	8.36	793.63	793.63		
May-08	891.58	102.31	10.77	1,004.66	1,004.66		
Jun-08	894.32	109.52	10.80	1,014.64	1,014.64		
Jul-08	894.32	97.76	10.80	1,002.88	1,002.88		
Aug-08	866.03	96.43	10.46	972.92	972.92		

Date	FOB Commodity Price	Ocean freight	Insurance	CIF Monrovia	Estimated IPP	Prices Achieved	Achieved Price as % of IPP
	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	
	USD	USD	USD	USD	USD	USD	
Sep-08	800.78	89.67	9.67	900.12	900.12		
Oct-08	769.98	80.16	9.30	859.45	859.45		
Nov-08	712.72	48.51	8.61	769.84	769.84		
Dec-08	679.86	39.45	8.21	727.52	727.52		
Jan-09	631.95	40.18	7.63	679.77	679.77		
Feb-09	613.70	40.18	7.41	661.30	661.30		
Mar-09	569.22	47.78	6.88	623.87	623.87	600.00	96%
Apr-09	553.25	57.82	6.68	617.75	617.75		
May-09	540.24	54.29	6.53	601.06	601.06		
Jun-09	536.13	56.35	6.48	598.96	598.96		
Jul-09	535.37	53.12	6.47	594.96	594.96		
Price Achieved as percent of IPP							87%

Source: USDA AMS, US Wheat Associates, CRS Awardees

ANNEX 11: DETAILED IPP CALCULATIONS FOR WHEAT

Date	FOB Commodity Price	Ocean freight	Insurance	CIF Monrovia	Estimated IPP	Prices Achieved*	Achieved Price as % of IPP
	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	
	USD	USD	USD	USD	USD	USD	
Jan-06	168.00	32.34	1.68	202.02	202.02		
Feb-06	180.00	23.52	1.80	205.32	205.32		
Mar-06	176.00	23.13	1.76	200.89	200.89		
Apr-06	182.00	26.71	1.82	210.53	210.53		
May-06	195.00	27.44	1.95	224.39	224.39		
Jun-06	197.00	29.40	1.97	228.37	228.37		
Jul-06	204.00	34.06	2.04	240.10	240.10		
Aug-06	194.00	36.75	1.94	232.69	232.69		
Sep-06	201.00	46.84	2.01	249.85	249.85		
Oct-06	215.00	51.70	2.15	268.85	268.85		
Nov-06	213.00	51.08	2.13	266.21	266.21		
Dec-06	210.00	50.96	2.10	263.06	263.06		
Jan-07	203.00	54.15	2.03	259.18	259.18		
Feb-07	203.00	53.41	2.03	258.44	258.44		
Mar-07	206.00	51.35	2.06	259.41	259.41		
Apr-07	207.00	52.68	2.07	261.75	261.75		
May-07	199.00	57.09	1.99	258.08	258.08		
Jun-07	226.00	63.70	2.26	291.96	291.96		
Jul-07	241.00	57.09	2.41	300.50	300.50		
Aug-07	264.00	67.42	2.64	334.06	334.06		
Sep-07	338.00	93.84	3.38	435.22	435.22		
Oct-07	345.00	109.52	3.45	457.97	457.97		
Nov-07	379.00	103.93	3.79	486.72	486.72	270.00	55%
Dec-07	374.00	92.49	3.74	470.23	470.23		
Jan-08	374.00	88.20	3.74	465.94	465.94		
Feb-08	436.00	90.16	4.36	530.52	530.52		
Mar-08	450.00	97.02	4.50	551.52	551.52		
Apr-08	371.00	92.86	3.71	467.57	467.57		
May-08	331.00	102.31	3.31	436.62	436.62		
Jun-08	347.00	109.52	3.47	459.99	459.99		
Jul-08	330.00	97.76	3.30	431.06	431.06		
Aug-08	336.00	96.43	3.36	435.79	435.79		

Date	FOB Commodity Price	Ocean freight	Insurance	CIF Monrovia	Estimated IPP	Prices Achieved*	Achieved Price as % of IPP
	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	
	USD	USD	USD	USD	USD	USD	
Sep-08	299.00	89.67	2.99	391.66	391.66		
Oct-08	245.00	80.16	2.45	327.61	327.61		
Nov-08	237.00	48.51	2.37	287.88	287.88		
Dec-08	229.90	39.45	2.30	271.65	271.65		
Jan-09	248.00	40.18	2.48	290.66	290.66		
Feb-09	235.06	40.18	2.35	277.59	277.59		
Mar-09	236.09	47.78	2.36	286.22	286.22		
Apr-09	230.93	57.82	2.31	291.06	291.06		
May-09	253.61	54.29	2.54	310.44	310.44		
Jun-09	251.55	56.35	2.52	310.42	310.42		
Jul-09	244.00	54.88	2.44	301.32	301.32		
Price Achieved as percentage of IPP							55%

Sources: USDA ERS, US Wheat Associates, GOL, Awardees

* Sales price set by GOL

ANNEX 12: DETAILED IPP CALCULATIONS FOR WHEAT FLOUR

Date	FOB Commodity Price	Ocean freight	Insurance	CIF Freetown	IPP	Prices Achieved	Achieved Price as % of IPP
	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	
	USD	USD	USD	USD	USD	USD	
Jan-06	310.49	22.575	3.10	336.17	336.17		
Feb-06	314.71	18.9	3.15	336.75	336.75		
Mar-06	307.68	18.9	3.08	329.66	329.66		
Apr-06	307.68	18.9	3.08	329.66	329.66		
May-06	324.54	18.9	3.25	346.69	346.69		
Jun-06	332.97	19.425	3.33	355.73	355.73		
Jul-06	361.07	21.2625	3.61	385.94	385.94		
Aug-06	342.80	23.73	3.43	369.96	369.96		
Sep-06	344.21	26.775	3.44	374.43	374.43		
Oct-06	363.88	29.4	3.64	396.92	396.92		
Nov-06	365.28	27.72	3.65	396.66	396.66		
Dec-06	365.28	29.4	3.65	398.34	398.34		
Jan-07	355.45	31.08	3.55	390.08	390.08	384.00	98%
Feb-07	359.66	30.7125	3.60	393.97	393.97		
Mar-07	369.50	32.55	3.69	405.74	405.74		
Apr-07	380.74	34.65	3.81	419.20	419.20		
May-07	384.95	40.95	3.85	429.75	429.75		
Jun-07	408.84	38.85	4.09	451.78	451.78		
Jul-07	448.18	41.16	4.48	493.82	493.82		
Aug-07	495.94	44.625	4.96	545.53	545.53		
Sep-07	598.66	48.3	5.99	652.94	652.94		
Oct-07	611.06	59.01	6.11	676.18	676.18		
Nov-07	582.72	65.1	5.83	653.64	653.64		
Dec-07	662.42	71.05	6.62	740.09	740.09		
Jan-08	662.42	71.19	6.62	740.23	740.23		
Feb-08	772.23	67.725	7.72	847.68	847.68		
Mar-08	797.03	68.25	7.97	873.25	873.25		
Apr-08	657.11	68.88	6.57	732.56	732.56		
May-08	586.26	76.125	5.86	668.25	668.25		
Jun-08	614.60	75.8625	6.15	696.61	696.61		
Jul-08	584.49	72.87	5.84	663.20	663.20		
Aug-08	595.12	70.6125	5.95	671.68	671.68		

Date	FOB Commodity Price	Ocean freight	Insurance	CIF Freetown	IPP	Prices Achieved	Achieved Price as % of IPP
	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	
	USD	USD	USD	USD	USD	USD	
Sep-08	529.58	63	5.30	597.88	597.88		
Oct-08	433.94	37.38	4.34	475.66	475.66		
Nov-08	419.77	23.3625	4.20	447.33	447.33		
Dec-08	407.20	19.53	4.07	430.80	430.80		
Jan-09	439.25	18.9	4.39	462.54	462.54		
Feb-09	416.33	23.1	4.16	443.59	443.59		
Mar-09	418.15	29.4	4.18	451.73	451.73		
Apr-09	409.02	27.93	4.09	441.04	441.04		
May-09	449.19	32.8125	4.49	486.50	486.50		
Jun-09	445.54	31.2375	4.46	481.23	481.23		
Prices Received as percentage of IPP							98%

ANNEX 13: DETAILED IPP CALCULATIONS FOR VEGETABLE OIL

Date	Commodity Price	Ocean freight	Insurance	CIF Monrovia	IPP	Prices Achieved	Achieved Price as % of IPP
	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT
	USD	USD	USD	USD	USD	USD	USD
Jun-05	544.65	49.49	\$5.45	\$599.59	\$599.59	743*	124%
Jul-05	556.67	45.28	\$5.57	\$607.51	\$607.51		122%
Aug-05	522.39	36.51	\$5.22	\$564.11	\$564.11		132%
Sep-05	509.60	39.59	\$5.10	\$554.29	\$554.29		134%
Oct-05	535.23	37.73	\$5.35	\$578.31	\$578.31		128%
Nov-05	494.50	35.04	\$4.94	\$534.48	\$534.48		139%
Dec-05	465.73	33.91	\$4.66	\$504.29	\$504.29		147%
Jan-06	479.10	32.34	\$4.79	\$516.23	\$516.23		
Feb-06	488.69	23.52	\$4.89	\$517.10	\$517.10		
Mar-06	503.65	23.13	\$5.04	\$531.81	\$531.81		
Apr-06	495.19	26.71	\$4.95	\$526.85	\$526.85		
May-06	537.56	27.44	\$5.38	\$570.38	\$570.38		
Jun-06	532.25	29.40	\$5.32	\$566.97	\$566.97		
Jul-06	568.57	34.06	\$5.69	\$608.31	\$608.31		
Aug-06	542.01	36.75	\$5.42	\$584.18	\$584.18		
Sep-06	515.55	46.84	\$5.16	\$567.55	\$567.55		
Oct-06	544.60	51.70	\$5.45	\$601.74	\$601.74		
Nov-06	615.20	51.08	\$6.15	\$672.43	\$672.43		
Dec-06	613.93	52.53	\$6.14	\$672.60	\$672.60		
Jan-07	621.15	55.37	\$6.21	\$682.73	\$682.73		
Feb-07	634.66	48.76	\$6.35	\$689.76	\$689.76		
Mar-07	660.17	53.51	\$6.60	\$720.28	\$720.28		
Apr-07	674.26	55.37	\$6.74	\$736.37	\$736.37		
May-07	720.64	62.72	\$7.21	\$790.56	\$790.56		
Jun-07	741.08	58.60	\$7.41	\$807.10	\$807.10		
Jul-07	775.17	66.15	\$7.75	\$849.07	\$849.07		
Aug-07	760.46	80.16	\$7.60	\$848.23	\$848.23		
Sep-07	814.91	109.03	\$8.15	\$932.09	\$932.09		
Oct-07	850.30	110.25	\$8.50	\$969.05	\$969.05		
Nov-07	953.03	93.59	\$9.53	\$1,056.15	\$1,056.15		

Date	Commodity Price	Ocean freight	Insurance	CIF Monrovia	IPP	Prices Achieved	Achieved Price as % of IPP
	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT	\$/MT
	USD	USD	USD	USD	USD	USD	USD
Dec-07	990.01	90.16	\$9.90	\$1,090.07	\$1,090.07		
Jan-08	1,092.20	88.69	\$10.92	\$1,191.81	\$1,191.81		
Feb-08	1,252.01	94.67	\$12.52	\$1,359.19	\$1,359.19		
Mar-08	1,278.85	93.59	\$12.79	\$1,385.22	\$1,385.22		
Apr-08	1,240.27	96.78	\$12.40	\$1,349.44	\$1,349.44		
May-08	1,292.79	110.35	\$12.93	\$1,416.07	\$1,416.07		
Jun-08	1,369.68	98.74	\$13.70	\$1,482.11	\$1,482.11		
Jul-08	1,332.01	100.94	\$13.32	\$1,446.27	\$1,446.27		
Aug-08	1,554.55	89.38	\$15.55	\$1,659.47	\$1,659.47		
Sep-08	1,021.15	85.75	\$10.21	\$1,117.12	\$1,117.12		
Oct-08	789.81	60.37	\$7.90	\$858.07	\$858.07		
Nov-08	707.02	39.69	\$7.07	\$753.78	\$753.78		
Dec-08	646.56	39.69	\$6.47	\$692.72	\$692.72		
Jan-09	707.79	40.18	\$7.08	\$755.05	\$755.05		
Feb-09	639.48	44.10	\$6.39	\$689.97	\$689.97		
Mar-09	623.49	57.33	\$6.23	\$687.06	\$687.06		
Apr-09	723.53	55.37	\$7.24	\$786.13	\$786.13		
May-09	804.55	55.08	\$8.05	\$867.67	\$867.67		
Jun-09	793.77	55.37	\$7.94	\$857.08	\$857.08		
Jul-09	693.27	50.18	\$6.93	\$750.38	\$750.38		
Price Received as percentage of IPP							132%

Source: USDA Livestock & Grain Marketing News Portal, US Wheat Associates, Awardees

* Specific date not available for monetization sale; thus monetized sales price compared against values for each month in 2005.

**USAID OFFICE OF FOOD FOR PEACE
LIBERIA
BELLMON ESTIMATION**

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